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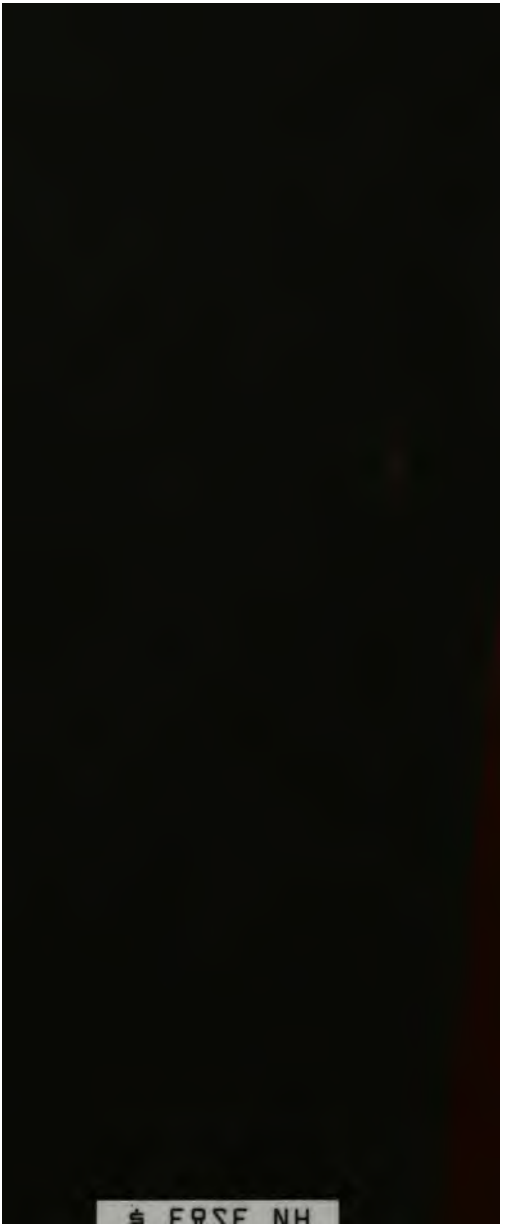
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FROM

Daniel B. Fearing
Newport, R.I.

A

# TRUE METHOD

Of Treating

# *Light Hazely Ground*;

Or, an exact Relation of the

# PRACTICE

OF

# Farmers in *BUCHAN*:

Containing RULES for

INFIELDS, OUTFIELDS,

HAUGHS and LAIGHS.

---

*By a small* SOCIETY *of* FARMERS *in BUCHAN.*

---

*O fortunatos nimium sua si bona novint*
*Agricolas* ——— VIRG. GEOR. II.

*Omnium autem rerum, ex quibus aliquod acquiritur, nihil est agricultura melius, nihil uberius, nihil dulcius, nihil libero homine dignius.*
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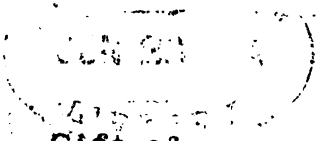

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# THE PREFACE.

THE Improvement of thoſe Arts and Sciences, which tend more immediately to the Benefit of Mankind, has been juſtly eſteemed a laudable Purſuit, in all Ages; and will continue to be ſo, as long as Men have any true Senſe of Honour, or Concern for the common Good of their Country. It was out of Regard to this publick-ſpirited Principle, that we have adventur'd to throw in our Mite to the common Stock. If the Critical ſhall find Fault with the Mean-

*Meanneſs of the Stile, or Deficiency of the Performance, we hope the Intention will mitigate their Cenſure againſt the Matter; and the Plainneſs of the Authors, who make no Pretenſions to Elegancy nor Oratory, will plead an Excuſe for any Imperfection in the Form of this little Eſſay.*

*SOME will, no doubt, think ſtrange, that ſuch inconſiderable Perſons, and, at the ſame Time, ſo far removed from the Aſſiſtance of the more eminent Profeſſors and Encouragers of Husbandry, ſhould, notwithſtanding theſe Diſadvantages, attempt to commit any Thing to the Publick, leſt they ſhould diſparage ſuch a noble Science. To which we anſwer, that theſe few Sheets contain nothing purely ſpeculative, but a plain and genuine Relation of our Practice, as we have learn'd from Tradition, and our own repeated Experience, put into Method to eaſe our Memories, and for the Inſtruction of Beginners. Which, ſuppoſe it may add but little to the Improvement of Husbandry in general, it will be diverting to the Curious, and edifying to thoſe who live on the like Soil. And this we did the rather, becauſe moſt Books that treat of Agriculture, are calculate for Clay Soils,*

*Soils, while ours is quite overlookt; for what Reaſon we ſhall not ſay; but one of the Three following may probably be alledged. Either our Soil has altogether eſcaped the Notice of Writers, for Want of being repreſented; or they thought it ſo deſpicable, as not to deſerve their Application; or, laſtly, they have laid down the ſame Rules, in common, for Clay and light Soils. Which laſt has betray'd the Abettors of thoſe Principles into a Prejudice againſt ſome of our fundamental Rules: Such as, that of ploughing with full Sap, and preſcribing all feaſible Means for binding and uniting our looſe Mold. It is true, that thoſe and other of our Rules directly contradict their Scheme, which makes them determine very peremptorily againſt us, as oppoſing the common Senſe of Mankind. However, a little Reflection will reconcile any unbiaſſed Perſon to us, ſeeing we advance nothing barely for the Reaſonableneſs of it, without the concurrent Teſtimony of Experience: And certain it is, that Soils differ like Conſtitutions: So that the Method that is proper for one, will be as certainly fatal to another. However, theſe Gentlemen who have written upon Clay, have mightily obliged the World with*

*with their Experiments and Diſcoveries upon that Soil; and altho' their Rules cannot be received by us at all Times, yet we cannot but have a very great Eſteem for their Abilities and Ingenuity; and we hope they will not contemn the Sincerity of our Undertaking.*

# INTRODUCTION,

## CONTAINING

## A ſhort Deſcription of the Nature and Qualities of our Soil.

BEFORE we proceed to lay down Rules for managing of our Soil, it will be neceſſary to give the Reader a ſhort Account of it, that he may thereby be directed when to apply the following Preſcriptions; and, to do this with the greater Perſpicuity, we ſhall conſider the Originals of which the Mold is compoſed. Now, theſe are generally reckoned Three, *viz. Clay*, *Sand*, and *light* Earth. By the Word *Original*, we do not mean to furniſh Matter for nice and philoſophical Debates concerning the Principles and Elementary Parts of Earth; but only to give a familiar Deſcription of our own Soil, which is moſt

Part

Part hazely, and made up of *Sand* and *light* Earth; where ſometimes one, and ſometimes another has the Aſcendant in the Compoſition. The prevailing Soil in this Country, the Coaſt-ſide excepted, has two Thirds of *light* Earth, and one of *Sand*; however, 'tis always preferable the more it partakes of the latter, unleſs the Bottom, which is almoſt as different as our Fields, caſt the Balance.

From this Inequality of the *Pan*, and the Quality of our light Earth, which is very often of a moſſy Kind, doth chiefly proceed the numberleſs Variety of Soils with which our Country abounds, and makes Husbandry very difficult to manage. For we have Fields lying on *Clay* Bottoms, and they diverſified by their Situations and other Accidents, ſuch as Springs of different Kinds: Others on *Clay* and *Sand*, *Clay* and *Chingle*, and very many on *Clay*, *Sand* and *Chingle*, all mixt, and exceeding hard: Some ly on *Sand* of different Kinds, others on *Sand* and *Chingle*, and ſome on *Quarry*, which is ordinarily not the worſt.

Now, ſeeing we often obſerve the Molds of contiguous Fields to be made up of the very ſame Originals, and, at the ſame Time, vaſtly different in their intrinſick Value and Richneſs, it doubtleſs proceeds from the various Impreſſions of their reſpective Bottoms. However, this is not the ſole Cauſe of the Variety we mentioned of Soils, the Molds having a very large Share in that Difference: For, altho' we ſaid, that *Sand* and *light* Earth do make up the greateſt Part, yet there are few Farms but have ſome Fields mixt with *Clay*; and our Haughs and Laighs have often

ten a Portion of that firſt and beſt Original. We likewiſe obſerve two Kinds of *light* Earth; the one is the Remains of Moſs, which, in old Time, over-ſpread many of our Fields, and, in its own Nature, not only altogether barren, but, when mixed with other Earth, tends to propagate Weeds. The other is, properly, one of the Originals, and ſerves for an Allay to the other two. Now, theſe two Sorts of *light* Earth make a ſtrange Difference on the Soil, and vary in Proportion to the Mixture.

From this ſhort Relation, it is very obvious to any Perſon, that there is no ſmall Difficulty in obſerving the due Seaſon of dunging and ploughing, as well as in adapting proper Seed to our Soil; and, as it differs from all other in its Nature and Qualities, ſo the Reader muſt look for as uncommon Rules in managing it; which agrees with the old Maxim, *Deſparate Diſeaſes require deſparate Remedies.* However, in this Relation, we make no Account of our Coaſt-Side, which is, poſſibly, among the beſt Soils of the Kingdom; neither are our Rules calculate for that Part of the Country, but are only to be received at two or three Miles Diſtance from the Sea.

Having now given a general Idea of the Soil, we come to lay down Rules for our Infield, which we ſhall make the Subject of the firſt three Articles, as they are divided in the common Courſe of Husbandry, and diſtinguiſhed by the following Names, *Bear-Land*, *Bear-Root*, and *Awal Bear-Root*.

# ARTICLE I.

## Of BEAR-LAND.

BEAR-LAND is that Part of Infield, which, being impoveriſhed and worn out, we again dung, and prepare for Bear, to bring the Field in Heart.

### RULE I.

*The Field which is deſign'd for Bear gets two Furrows, the one a* Break, *the other* Clean.

Hazely Ground being naturally looſe and light, will not admit of clean ploughing twice for one Crop, unleſs it be overlaid with very binding Dung; and if the Field be thus ſufficiently enriched, there will be no Uſe for more than one clean Furrow, for the Mold being pretty free of Canker, it loſes as much by pulverizing, with frequent ploughing, as it gains by other Accidents.

The Time of giving the firſt Furrow, is, either early in the Beginning of Winter, when the Field is only tolerably moiſtned with Rain, or immediately after the Winter Storms, when the Mold is looſed with Froſt, and exceeding full of Sap. The firſt Seaſon is to be choſen, when the Field is tolerably free of Growth; but if it be peſtered with *Quicken*, *Swine-Arnot*, or other ſuch ſpreading Roots, the laſt is to be, by all Means, made Uſe of.

Now, the Reaſon why this Seaſon is moſt proper, may, probably, be as follows. Light Molds are generally peſtered with the above men-

mentioned Weeds, the Roots whereof are much waſted by that Time of the Year, both with Froſt and Exceſs of Water, wherewith the Earth is then repleniſhed: And beſides, the breaking of it, in that Seaſon, ſeparates the Roots from each other, and affords an Opportunity to the Parts of Earth, which had been formerly divided by the ſubtil Invaſion of theſe Roots, to cement and ſtick together, and ſo fences and hardens the Mold, that, in a great Meaſure, it defeats their Progreſs; for, being ſtraitned by the Firmneſs of the Mold, they die away, and leave the whole Maſs of it ſo very ſolid, that it yields itſelf to the Diſpoſal of the Plough, as if it had not been formerly broken; and, conſequently, facilitates and ſeconds the Tillage. Whereas dry and late Break-furrowing have quite contrary Effects: For the Weeds have then ſo vigorouſly acted their Parts, that the thirſty Mold is already deprived of that Moiſture which was abſolutely neceſſary for uniting its looſe Particles. And how ſoon it is broke up, it diſſolves immediately, which, with the Roots of Weeds, makes the next Furrow extreamly difficult to be given, and, which is ſtill worſe, becomes the prolifick Mother of Graſs and many other Weeds.

## RULE II.

*Let particular Care be taken to prepare the Dung with proper Mixtures, ſuch as* Lime, Aſhes, Clay, Urine, *&c.*

This Rule ought to be carefully obſerv'd, becauſe of the general Miſtakes in this Matter; for many think their Dung ſufficiently prepar'd, when

when they lay it upon any dry Place, to which they have convenient Acceſs, without giving it any Mixture at all, unleſs, perhaps, a few Turfs laid in the Ground of their Dunghil; and as little Care is had in the chuſing of them, altho' that be a very material Point; which Miſtake may be prevented, by following this ſhort Direction.

Chuſe your Turf, or other Mixture, as oppoſite in Quality as may be to the Soil on which you lay your Dung; for Example, ſuperinduce *Clay*, *Sand* and *Clay*, or, failing of that, even *Chingle*, and *ſmall Stones*, on *light* Soils; *for their Sterility chiefly proceeds from Want of due Gravity*. This hath put all prudent Husbandmen upon preparing their Fields, of this Kind, with ſuch Dungs as contribute moſt to their Weight, and cement their looſe Parts. *Lime*, either laid on by itſelf, or mix'd with the Dunghil, is generally reckon'd the beſt Manure; and, next to that, as the Rule preſcribes, *Aſhes*, *Urine*, *Dubs*, mix'd with the Excrements of different Animals; which heterogeneous Compoſures *create a Ferment*, and ſend forth ſuch a noiſom Smell, as diſcovers it to be furniſh'd with that Strength and aſtringent Quality, as will moſt probably make due Returns for the Labour. It will, however, be very proper to turn over the Dunghil, about a Month before it be laid on the Field, to mix and digeſt the Stubbornneſs of it, *and render the Whole more mellowy*.

A Pit, which receives the Sink of Office-Houſes, is moſt convenient for making right Dung. Becauſe that repleniſhes it with Strength, by the Stagnation and Ferment of different Bodies, that meet and ſtruggle together when penn'd

up

up in ſuch narrow Compaſs ; but, even in this Caſe, it would be fit to empty the Pit a Fortnight, or Twenty Days, before the Dung be laid on the Field, to free it of ſuperfluous Moiſture ; which, altho' it furniſhes the Dung with Strength, does not allow it to rot ſo ſoon as when it is diſpoſed of upon a dry Place.

## RULE III.

*Let the Dung be laid on the Ground deſigned for Bear, either in the Go-Harveſt, or immediately before the laſt Furrow, which is to be given betwixt the End of* April, *and Middle of* May.

The Reaſon of preſcribing different Seaſons of Dunging, is occaſion'd by the Difference of the Soil, and the Habit and Condition wherein they are at the Time. If the Soil be light and tender, it ought to be early dung'd, that it may help the Mold to as much Growth as will be neceſſary for producing Bear ; it being well worth our Notice, that when light Fields are quite freed of Growth, the ſmall Weeds come up in ſuch Numbers, that they overcome the Bear, and render it both ſhort and thin, unleſs the Mold be exceeding fat, and lying upon a good Bottom.

If the Owner of ſuch Fields be not provided of Dung in the Go-Harveſt, he may lay it on before Oat-Seed, and allow it to ly ſpread upon the Fields, till the End of *March*, before he proceed to break Fur, that the Dung may impregnate the Mold, and may bring in as much Growth as preſerve it from the Tyranny of Weeds, and being heav'd with the Heat of the Sun and Drought.

But

But becauſe it often happens, that Dung cannot be ſooner provided than the Time of giving the laſt Furrow; we tell them for their Encouragement, that tho' it prove not ſo beneficial to Bear, their Labour is not loſt, for the Oat Crops will be proportionably better, providing always the due Seaſon of ploughing and ſowing be obſerv'd.

The other Seaſon of laying on Dung, is immediately before the laſt Furrow for Bear. Now, this Rule is to be followed by thoſe whoſe Infield hath a ſandy Mold, upon a Bottom of deep *Sand* and *Chingle*; and the Reaſons probably are, that the weighty *Sand* preſerves the Mold from heaving with the Heat of the Dung, and the corroding Quality of it very ſoon digeſts the Manure of it, and diſperſes its fæculent Parts thro' the Mold, affording Nutriment to the Seed, without forcing up the Weeds in ſuch Plenty as in a *light* Soil.

## RULE IV.

*The ſecond Furrow ought to be given betwixt the Middle of* April, *and the Middle of* May, *carefully endeavouring to plough it as ebb as poſſible.*

The Reaſon why we chuſe to make our Bear late, is to prevent that Growth, which infallibly diſheartens the Field for Corn, when it gets Footing, by ploughing Bear-Land early; and alſo it ſerves to cruſh wild Oats, to which our Soil is generally inclin'd; for theſe having an early Spring, the late Ploughing helps a great deal to cruſh them for that Crop, or elſe turns them to the Seaſon of the Bear, and ſo both ripen together.

It

It is often obſerv'd, that early Break-Fur preſerves them; becauſe, ſay they, when the Surfaces are laid together, the wild Corn is protected from the Violence of Winter Storms.

There are two different Opinions about the Origin of wild Oats; ſome think they are tame Corn, by ſome Accident, which cannot be well accounted for, degenerated into wild. Others maintain, that they are the natural Product of the Soil, and do affirm, that ſeeing the Earth is endued with a ſeminal Virtue, they ſee no Reaſon why it may not produce them, as well as other Weeds, without any ſuch fortuitous Metamorphoſis as thoſe of the contrary Opinion contend for: And, to ſupport this their Sentiment, they tell us, which is certainly true, if a Delph be caſt up in a Field, that hath lien for the Space of five or ſix Years, wild Oats will ſpring up of their own Accord; now, they think, that 'tis not poſſible the Seed could have lien ſo long under Ground, and remain uncorrupted; from whence they infer, that wild Oats proceed from the ſame Cauſe with other Weeds.

Ebb Tilling is recommended to retain the Dung as near the Seed as poſſible, and the Remainder of the Mold is to ly, in the mean Time, to contract a Body.

## RULE V.

*Immediately after the laſt Furrow, let the Field be ſown, and at firſt Half harrow'd; when it hath lien till the Seed begin to root, croſs harrow it, and ſo let it ly till the Time of Stocking: When the*

*the Weeds begin to ſpring, it will be fit to cruſh them again with the Harrow.*

The Reaſon of all this Caution is, to deſtroy the ſmall Weeds, which, in *light* Grounds, naturally ſpring up very plentifully when the Weather begins to grow warm. By ſmall Weeds, here, is meant, *Tarrs*, *Skellachs*, *Gule*, and others, that ſpring from the Seed, which at firſt are but very ſlightly rooted, and therefore eaſily turn up with the Hartow. It is generally thoſe that fruſtrate the Labourer's Expectation, when he hath us'd all provident Care towards his Bear-Land.

We ſay, That no Method, that we have as yet try'd, hath prov'd ſo effectual to retard their Progreſs, as to harrow them down when they appear above Ground; and becauſe they cannot be ſuppreſs'd at once, they ought therefore to be torn up as oft as they appear, until the Brier begin to recover after Stocking: And, if any one apprehends Loſs, by harrowing his Brier, we do aſſure him, that that Scruple is contrary to Experience, ſeveral of our own Number having followed the above Directions with great Succeſs, providing it be done when the Field is dry, and with Iron-Harrows, they being more fit to be us'd upon Occaſions of this Kind. When the Mold is loos'd with much harrowing, or great Drought, a Roller may be us'd, tho' little practiſed in this Place; the Reaſonableneſs of it will recommend it to the Notice of the Curious.

Another Leſſon we learn from Experience, is, that a dry Seaſon is not at all deſireable for plough-

ing

ing and ſowing Bear-Land, which is naturally dry and light, becauſe it directly encourages that inveterate Diſtemper of which it is poſſeſſed, *to wit*, Looſeneſs, or Want of Solidity. That Defect is much ſupplied by a rainy Bear-Seed, and the ſmall Weeds are kept down longer than ordinary with the battering of frequent Showers. However, if the Field ly naturally wet and ſleeky, a rainy Seaſon has quite contrary Effects, and it will be fit to keep back the Seed from the Field for two or three, or, if Need be, eight Days after ploughing, till the Furrows dry and wither, thereby evacuating the Canker, before it be ſown, while it is expoſed to the Impreſſions of the open Air.

But ſince dry Seaſons as frequently happen as wet, our next Care is to endeavour, if poſſible, to obviate their Malice; and, for that End, it will be fit to ſteep the Seed, before it be caſt into the Field. We know ſeveral Preſcriptions have been given to compoſe the Steep, ſuch as *ſalt Water*, *Urine*, *Doves Dung*, *Saltpetre*, &c. This, we doubt not, may have ſome good Effect, but frankly own, we can give no Advice from Experience, and ſo refer the Inquiſitive to the elaborate Works of elder Practitioners. After the Seed is ſoftened a little with Steep, let it be put upon a Barn-Floor, and there wrought like Malt, till it begin to ſpring, and then ſow it directly, and harrow it according to the above Directions.

# ARTICLE II.

## BEAR-ROOT, or, First Crop after Bear.

### RULE I.

*Let it be plowed with competent Sap, both deep and tight.*

Deep ploughing, in this Case, is recommended, for two good Reasons. *First*, To bury the Grass-Roots, which, after Bear, have mostly betaken themselves to the Surface, finding easier Progress there, by Reason of its Looseness; and the Bottom, remaining untouched by the last ploughing, does more strenuously resist their Efforts.

The other Reason is, that the rested Mold, which lay idle underneath last Year, may now appear to act its Part, as the upper did formerly, and the Stubble being turned deep down, together with the superficial Weeds, all may rot under the Furrow, and consequently assist the Field to produce a more plentiful Crop, by their Aspirations.

Tight ploughing is also very reasonably advised, because that, if any Thing, will preserve the tilled Land from drowning by Winter Storms, which every one knows should be avoided with all imaginable Activity. Another Benefit we have from right ploughing, is, that it is easily harrowed. This not only advances the Work in that busy Time, but likewise breaks the Body of the Mold less than the reiterated Strokes which are necessary for smoothing rough and ill laid Furrows.

RULE

## RULE II.

*The preciſe Time of ploughing Bear-Root, which requires only one Furrow, cannot well be determined, becauſe that dependeth upon the Wetneſs or Dryneſs of the Seaſon, but we think it abſolutely neceſſary, that the Mold have as much Moiſture as give the Furrow a due Shape.*

The Reaſonableneſs of the Mold being repleniſhed with competent Sap, before tilling, is very obvious to any who have had the leaſt Experience, or yet have conſidered what was formerly ſaid upon Bear-Land: For Drought hath generally the ſame Effect here, it had there; only with this Difference, that the reſted Earth, which now lies uppermoſt, is not ſo kindly to the Weeds; and the Graſs-Roots being turned deeper down, cannot ſo ſuddenly exert their Powers, which is one probable Reaſon why the Bear-Root Crop, when dry ploughed, ſometimes eſcapes their Clutches. But, if they miſs the one, the other, *to wit*, the Awal, is ſure to feel the Weight of their Revenge: For, being ploughed down when they are in Vigour, and having no more Moiſture than ſerves to ſubſiſt them, they never rot, but begin at the Bottom, and pervade the whole Maſs, twiſting themſelves ſo dextrouſly with the Mold, that not one Shovel full of it is free of their Commixtures, which is the ordinary Reward of thoſe People, who, through Ignorance, or over much Forwardneſs, miſtime their Ground, with ſo much Expence and hard Labour.

As deep ploughing has been earneſtly recommended, ſo the contrary Practice is as ſeriouſly diſcouraged, as being of the laſt Hazard to the

Oat

Oat Crop. For, if it be done in Time of Drought, it is ſcarce practicable to give the Furrow any tolerable Shape, and, conſequently, the forementioned Advantages of fine ploughing are utterly loſt; and, what is ſtill worſe, it exceedingly preſerveth wild Oats. And even tho' the Field be ebb ploughed with Sap, the Weeds find very eaſy Work in compleating their Triumph; for being ſtill kept in their native Mold, and nothing to depreſs them from above, they advance with ſo admirable Succeſs, that the Labourer's Pains is thereby almoſt entirely fruſtrate.

## RULE III.

*Let the Field be harrowed about the Time of Stocking, to cruſh the Weeds.*

Although this Kind of Soil be duly managed, both in ploughing and adapting the proper Seaſon, it will be annoy'd with thoſe leſſer Weeds, that go under the common Appellation of *Skellach*, *Gule*, *Tarr*, *&c.* all or moſt of which, tho' they come to a conſiderable Bigneſs, when allow'd to grow up without Interruption, notwithſtanding are eaſily check'd upon their firſt Appearance. And therefore it were very adviſeable to give the Field one Stroke with Harrows a little before or about the Time that the Brier begins to appear above Ground: Eſpecially if the Surface has been batter'd with Rain, this Advice will be indiſpenſibly neceſſary; for, in that Caſe, the Brier is kept Priſoner, by the Cruſt above it, and the Weeds are freed from the ſmall Clods, which were diſſolved by preceeding Rains, and upon that Account come up thicker than otherwiſe they

they would have done; ſo that, to open it with Harrows at this Time, is of conſiderable Importance; for it frees the Brier from its Confinement, and adminiſters freſh Supply from the new Mold, and raiſes new Clods to diſturb the Weeds.

The Reaſon why the Rule preſcribes harrowing about the Time of ſtocking, is this. After the Brier-Blade falls, the Corn makes no Progreſs, till the Stock be form'd, the Weeds, taking the Advantage of this Delay, advance with incredible Celerity, and unleſs they be cruſh'd at this Juncture, they ſoon overtop the Brier, and maintain their Victory, till they render the Corn both thin and feeble: But a judicious Management of the Harrow will ſet back the Weeds, and give the Brier, which in that Seaſon naturally grows up very quickly, the Advantage over them, and having again recovered the former Loſs, it will preſerve its Diſtance to the End. And ſo theſe noxious Weeds, which we ſee remain till Harveſt, are either what have eſcaped the Harrow Teeth, or have been too deep rooted to be reached by them.

Iron Harrows ſhould only be uſed for this Effect, becauſe they penetrate deeper into the Mold, and both root up the Weeds better, and furniſh the Root with freſher Earth. They likewiſe do leſs Skaith to the Brier; for, if they tear up ſome of it, they afford ſuch Plenty of Nutriment to the reſt, as enables them to ſupply the Room of that which was eradicate; whereas a clumſey Timber Harrow skips upon the Surface, and mangles the Blade, without refreſhing the Root.

Iron Harrows are alſo preferable, becauſe, their Teeth being ſmall and ſmooth, they eaſily glide through

through the Mold, without breaking its Body ſo much as the tough and big-tooth'd Timber ones do.

## ARTICLE III.

## AWAL-INFIELD, or, Second Crop after Bear.

THE general Method is, to take two Crops of Corn after Bear, in light Soils, becauſe it conſolidates the Mold, and brings in a certain Growth; which is neceſſary for producing Beat in our Grounds; and we have, generally ſpeaking, more Profit by the Oat-Crop, than we have immediately from the Bear.

### RULE I.

*Awal-Infield is much better'd by getting two Furrows, the one a* Break, *and the other* Clean.

When Awal-Infield is break-furr'd, it ſhould be done immediately after, or in Harveſt, allowing it to ly till about *Chriſtmas*, againſt which Time it will recover as much Solidity as will make it fit for a ſecond ploughing.

There are two ſpecial Reaſons to enforce the Practice of this Rule. *Firſt*, To cruſh the Graſs and other Weeds, which have probably made a conſiderable Progreſs the preceeding Summer; and, if they meet with no Oppoſition after the Corn is cut down, ſeldom miſs of advancing full Speed, till the nipping Froſts make them again recoil, and

and thereby indiſpoſe the Field for the ſucceeding Crop.

Another Uſe of Breakfur, at this Time, is to cover the Stubble with a little Earth, the moſt Part of which very ſoon rotteth, and addeth a new Manure to the Field. This Furrow is to be applied with ſpecial Care, both ebb and ſmall, that the Frequency of it may cut more of the Roots of Weeds; and, in the mean Time, the Plough going ſtill in the Surface, not above two Inches deep, the reſt of the Mold may be preſerv'd in its Solidity, and thereby facilitate the next ploughing, which, by the Rule, is ſuſpended till after *Chriſtmas*, that the Surface of the Mold, which was ſomewhat loos'd by the *Break*, may again turn firm.

Another Cauſe of this Delay, is, that the Roots of Weeds are then in their weakeſt State, and the Interſtices of the Mold glutted with Water, ſo that no Time can be more proper, for adminiſtring the ſecond Furrow with Succeſs againſt the Weeds, becauſe the Earth being fully repleniſhed with Sap, it hardens with the firſt Drought, and ſo hems in the Roots, that many of them die away, and even the remaining Part, being thus debilitate, proceed but leiſurely.

'Tis, however, very proper, that Awal-Land be ploughed the ſecond Time, before the Departure of Winter Froſts, not only on Account of *Weeds* who ſuffer very much by them, but alſo to deſtroy any *Canker*, which is either generated by Stagnation of Water, betwixt the Mold and Pan, or elſe is inherent in the Bottom itſelf. However that be, daily Experience teacheth, that when any Part of it is turn'd up, the Intervention

of

of Froſt is neceſſary to do away the Malignity thereof; and it will be very fit to plough down the Weeds pretty deep, ſeeing they are ready on all Occaſions to aſpire.

## RULE II.

*It will be fit to harrow down the Weeds about the Time of Stocking, and if, after all, the Weeds happen to prevail, it may be eaten up with Beaſts, betwixt the Beginning and Middle of* May.

There is the ſame, if not greater Reaſon for applying the Harrow to Awal-Infield, as there was for doing the like to Bear-Root, in this Seaſon. For the leſſer Weeds generally ſpring in greater Abundance at the ſecond, than at firſt Crop after Bear, becauſe the Mold loſes the Cement that keep'd the Parts thereof together, in Proportion to the Number of Crops that it produceth, and conſequently is thereby diſpoſed to be more indulgent to its own Productions. But, altho' the Harrow, when duly managed, does a great deal to extinguiſh the ſmall Weeds; yet ſuch is the Stubbornneſs of *Graſs*, *Finzach* and *Sorrel*, and ſo deep are they rooted, that they often baffle the Harrow, tho' ever ſo carefully applied: This frequently falls out in a ſpecial Manner, when *April* proves warm and dropping, for then the Corn naturally advanceth nothing further than the Stock, whereas the Graſs is little or nothing hinder'd that Way, and the Moiſture and Warmneſs do incredibly accelerate its Progreſs beyond the Brier, ſo that its very reaſonably adviſ'd to eat them up with Beaſts, to bring them both upon one Level; and, if that be done when the Brier begins to recover

cover after Stocking, it will, in all Probability, ſoon over-top the Weeds, and thereby prevent a great deal of Harm from theſe deſtructive Enemies.

The Animals that are fitteſt to be employed in this Affair are young Nolt, becauſe they cut cleverly, without diſturbing the Root, whereas old or ill tooth'd Beaſts very often pull up the Brier by the Roots. Horſes and Sheep, are not ſo fit to be put upon this Expedition, unleſs they be carefully kept, or teathered upon the Field; for altho' their Teeth be ſharp, yet we evidently obſerve them to eat the Corn, and leave the Graſs untouched, which is directly contrary to the Deſign, and this their Averſion is probably raiſed, from the Roughneſs of Graſs, in reſpect of the ſmooth and ſweet Blade of Corn.

Dry Weather is by all Means to be choſen in performing this Cure, for, in a rainy Seaſon, the Beaſts Feet would depreſs the Brier too far ever to recover, but, in Time of Drought, they tread down the ſmall Weeds, and conſolidate the Surface of the Field, which had been formerly looſed with Harrows. This Experiment will, no doubt, much offend the timerous and unthinking Part of Mankind; however, it hath often proven very beneficial, both for keeping back the Weeds, and preventing the lying of Corns before they be full.

*Wild Oats* do generally ariſe in greater Quantities among the *Awal*-Crop, than either in *Bear* or *Bear-Root*. The Reaſon is, that the laſt Furrow for Bear, being given after they are conſiderably advanced, deſtroys a great Part of them, but the few that remain increaſe a little more

in the Bear-Root, it being both plouhged and harrowed before the wild Corn begins to ſpring, and ſo they grow up togethet, without any Diſturbance, in their own Seaſon; for the ſame Reaſon, there will be greater Plenty of them to the Awal-Crop: And, indeed, they do very notable Miſchief to their Neighbour Corn; for the wild grows up faſter, and ripens much ſooner than the tame, and thereby exhauſts the Nutriment thereof. This never miſſes to render it both weak and thin, and therefore 'tis well worth the Owner's Pains, to endeavour by all Means to prevent this imminent Danger of his Corns, which will in a great Meaſure be done, by cropping the wild Oats how ſoon they come out of the Hoſe, who appear always about eight Days before the tame. Thus is Providence ſo kind as to tack that to their Nature, which is the Mean of their own Deſtruction. Any one that is careful may perform this Work, with the Hook in one Hand, and graſp the Crops with the other, which will be good Entertainment for Cows; or, if he hath no Mind to take the Trouble to preſerve them, let him fix a ſharp-tooth'd Hook in the End of a ſmall Pole, or Hazel Rod, and ſtrike them down therewith, which is more expeditious, tho' leſs profitable.

## RULE III.

*If a Field be ſo backward, that it does not anſwer by following the foregoing Rules, it will be fit to lay it down in Graſs, until it contract a Body, which will take* five *Years to ly.*

When

When the Body of the Ground is quite diſſolved by Roots of Weeds, and impoveriſh'd by many Crops, it is not ſo effectually mended by Dung, altho' duly prepared, as it will be by lying in Graſs; for, in the firſt Caſe, 'tis turned over and over, to return the Expence of the Manure, without getting any Reſt; and altho' right made Dung may diſpoſe the Field, ſo as to produce an equal Quantity of Grain, yet it is not ſo ſtrong, neither does it laſt above a Crop or Two, whereas, if the laſt Advice be followed, the Field will be enabled to yield Four or Five plentiful Crops, if duly managed. The Reaſon of this Difference is very obvious, becauſe, during the whole Time of lying, it is ſucceſſively nouriſhed with the nitrous and ſaline Particles of Air and Dews, which very ſubtilly inſinuate themſelves into it, and the Roots of Weeds being ſo long depreſſed, and retained in one individual Mold, they feſter and then die away. Theſe, and many other Accidents, ſuch as the Dung and Urine of Beaſts that are fed with the Graſs, beſides Depreſſion with the Feet of Animals, and its own Gravity, all contribute to conſolidate and enrich the Soil. Beſides improving the Field, no ſmall Advantage accrues from the Graſs which it yields during the Time it lies; for altho', after the firſt *three* Years, the Graſs begins to decay, that Loſs is, nevertheleſs, ſufficiently compenſated by the Ruin of deſtructive *Quicken*, and other ſuch paultry Roots, which are the very Parent of that Graſs we obſerve ſo ſoon to decay, and conſequently muſt live and die together. It is, however, well worth our Notice, that when the Field is freed from thoſe troubleſome

ſome Roots, and freely allowed to receive the kind Impreſſions of the Air, and other accidental Helps, the Graſs turns more natural, until the Field be all over-run with yellow Fog, and caſt up in Mole-Hills, which ſhould be equally ſpread over the Surface, and then it will be ſufficiently diſpoſed for intaking. This is certainly the beſt Rule to ſquare our Conduct by, when we are undetermined as to the preciſe Time of lying in Graſs.

This Method ought more eſpecially to be followed, by all thoſe who are pinched for Summer Graſs, minding always to lay that Dung which would have been neceſſary to keep their Infield in Condition for Tillage, upon an equal Quantity of Outfield. This will ſupply the Defect of Corn and Fother in Winter, while the Beaſts are plentifully provided in Summer; and, in the mean Time, both Parcels of Ground admirably enriched.

## RULE IV.

*The Field thus reſted, till it with ſufficient Sap in Winter, both ebb and tight.*

When the Winter Froſt hath looſed the Surface, and the Vacuities of the Earth ſaturated with Water, it will be the only proper Time to plough this Kind of Field, for the Sward is not only rendred more free and mellowy, but the Mold is enabled to retain that Solidity it hath contracted during the Time it lay in Graſs, and is the beſt Help for performing that Part of the Rule, which recommends ebb Ploughing; for that cannot be done, in any tolerable Meaſure, while the Field remains dry, and without Froſt, tho'

tho' it be a Matter of conſiderable Importance, for the Reaſons following. *Firſt*, Ebb-Ploughing preſerves a great Part of the Mold untouched, to aſſiſt ſucceeding Crops, the Plough being allowed to go a little deeper, ay till it reach the Bottom of the Mold; this buries the Weeds deeper, and furniſhes freſh Earth to every Crop. *Secondly*, It facilitates the next Ploughing; for, if a Ridge be rough or deep tilled at firſt, it will be ſo afterwards, ay till the Ley-Furrow be diſſolved; and, which is a common Obſervation, exceedingly encourages the firſt Beginning of Weeds. *Thirdly*, Ebb-Ploughing is recommended, becauſe it makes the Furrows ſmall; if it be ſmall it makes many Seams; if there be many Seams, there will be more Corn. And ſo 'tis plain, by this Gradation, together with the forementioned Reaſons, how carefully the Owners of ſuch Fields ought to attend the intaking of them.

There are ſome Farmers, who, not intending to lay out their Infield in Graſs by Turns, take only two or three Crops of Corn, and then proceed to Bear. This is chiefly practiſed by thoſe that have not Patience enough to ſpare their Ground till the Weeds be ſufficiently extinguiſhed; for they, of all other Vegetables, are endued with a very active Principle; ſo that, if any conſiderable Part of them remain undiſſolved, they will recover their former Vigour in a ſhort Time: And therefore it will be neceſſary, to prepare the Field for Bear, to check the Progreſs of theſe buſy Weeds; however, he that hath moſt Patience with his Ground, hath the beſt and ſureſt Returns.

RULE

## RULE V.

*If the Farmer intend to take in his Field, after one Year's lying, let him firſt prepare it for Bear, and then proceed to Corn.*

The Reaſon of this Rule is, in ſhort, thus. One Year's lying in Graſs does little or no Damage to the Weeds; and therefore, if the Field be plough-ed up for Corn, they generally make themſelves Maſter, with little or no Oppoſition, which the Bear, with the Lateneſs of its Seaſon, and frequent Furrows, doth in a great Meaſure prevent. Fields of this Kind ought to be early dung'd, that they may impregnate the Mold before the Winter Froſt come on, and ſhould get the firſt Furrow about the Dead of the Year, to preſerve it from over-much Growth.

Light Molds, like ours, ſhould be ſown with blended Seed, becauſe, however they may be enriched with Dung, there are always a great many Parts which are only proper for nouriſhing ſmall Corn; and therefore, altho' we incline to change our Seed frequently, yet we find a certain Loſs, by uſing it altogether clean. And as to the Time of Sowing, we think the Beginning of the Seaſon ſhould be taken, before the Graſs make any Progreſs, or the Drought have too much exhauſted the Moiſture, becauſe the Mold is too apt to be pulveriz'd with the Harrows, before the Seed be cover'd; and then the ſmall Weeds have too much Scope to exert their Powers.

ARTICLE

# ARTICLE IV.

## The Method of Treating Out-FIELD.

THERE are three Ways in Uſe among us of breaking up the Outfields, *viz. Folding*, *Fallowing* or *Fauching*, and *Dunging*. Of all which in their Order.

## Of Toth-Folds.

A Toth-Fold is a Field incloſed with a Dyke to keep in the Cattle in the Night-time, and for ſome Hours at Mid-day, who, during their Confinement, dung the Field, and qualify it to produce Crops conform to the Nature of the Soil.

### RULE I.

*The Field which is deſigned for Folding ought to be ſufficiently reſted.*

By reſting here is meant, that the Field ly till the Mold acquire Solidity, and contract that Body which was diſſolved by preceeding Ploughings, and that the Graſs-Roots may be exhauſted, and brought up to the Surface.

The preciſe Time of lying out cannot be aſſigned; for, as the Weeds have more or leſs infeſted the Mold, the Reſt muſt be proportionably longer or ſhorter, and different Soils require different Degrees of Reſt: For altho', as we have for-

formerly ſaid, there are only three Original Kinds of Earth, yet a vaſt Variety of Soils ariſe from the different Mixtures of theſe conſtituent Parts, and we commonly reduce them to *Clay*, *Sand*, and *light* Earth.

The firſt of theſe is deſervedly reckoned the richeſt, but ſince our Share of it is ſo very ſmall, and ſeeing it has been ſo fully deſcribed by better Hands, we have no Occaſion to ſpeak any Thing of it, but only, where any Part of our Fields are impregnated with Clay, they are capable of producing better Grain, and more Crops, and, which is no ſmall Advantage, require leſs Time to reſt: *Five* Years being the ordinary Allowance to enable the Field that hath a competent Mixture of Clay to bear *five* Crops.

*Sand* takes the next Place to *Clay*, altho' in a much inferior Degree: Nevertheleſs, when it is mix'd with a very little of it, it makes one of our beſt Soils: However, the *Sand* is not to be found alone, without *light* Earth intermixed, which is generally the Soil we have, and we ordinarily allow *ſeven* Years Reſt, and take *four* Crops of it.

## RULE II.

*Let the Field be incloſed with a Dyke in the Spring, and with ſufficient Sap.*

Every one knows the Neceſſity of ſurrounding the Field with a Dyke which he deſigns to toth; but the proper Time of doing this Work is not ſo obvious. Competent Sap is ſo neceſſary a Circumſtance for building Earth-Dykes, that, without it, the whole Deſign is almoſt diſappointed; for

for they never faſten, but fall to Ruin, either when ſtormy Weather falls out, or, which is worſe, when Beaſts accoſt them, they meet with very little Reſiſtance, but break through at once, and go directly to the Corns, and ſo deſtroy more than poſſibly the Fold will produce: And, beſides all this, when theſe Dykes are caſt down, they all fall to Duſt, and loſe the Body, which our Grounds are too apt to do, when the Turf is even digged with Sap, and harden'd with Summer Drought.

## RULE III.

*Let the Fold be ſufficiently toth'd, and not allowed to ſhoot up in long Graſs.*

By Sufficiency here, is meant, ſuch a Quantity of Dung as will impregnate the Mold, and bring on new and more agreeable Sward; but being thus mellow'd and enriched, it will very readily ſhoot out in long Graſs, commonly called *Gorſk*.

This ſuperfluous Growth ought to be carefully prevented, by putting Beaſts frequently into it to tread it down. The Harm of allowing Folds to gorſk, is very evident; for it exhauſts the Strength of the Dung, in nouriſhing that uſeleſs Traſh, and deprives the Mold of its own Moiſture, while it hinders it from being ſupplied by refreſhing Dews and Showers, which can get no Acceſs to it, ſo long as it is clad with maſſy Graſs; and thus it continues to languiſh, and every Day loſes a Part of the Riches it received from the Cattle, until the Winter Froſt puts a Stop to the Graſs, and by its Penetration makes Way for the Rain to water

the parched Mold. If the Fold be large, it would be very neceſſary to divide it in more Parts, eſpecially in a Soil where the Dykes produce Plenty of Corn. This not only makes ſufficient Returns for building the Dykes, but directs the Beaſts to dung the Field more equally. All which turns to Account to the Owner, providing he puts his Cattle ſometimes in one Diviſion, ſometimes in another, to ſuppreſs the *Gorsk*.

## RULE IV.

*Toth-Folds ſhould be broke up with abundant Sap.*

To underſtand this *Rule*, 'tis neceſſary to know, that the *Toth* muſt penetrate conſiderably into the Mold, otherwiſe it cannot communicate any Riches into it. Now, it is as certain, that the Influences of the Dung can reach no farther than the natural or acquired Sap of the Mold makes Way for it; and, as Moiſture is thus neceſſary for conducting the valuable Parts of Dung into their proper Places, ſo it is exceeding uſeful to unite the looſe Parts of the Mold. It likewiſe very much aſſiſts the Ploughing, as it is recommended, by a following *Rule*, to be both ebb and tight; and, after earing, it diſpoſes the Furrow for the Impreſſions of the Froſt; for the Pores being glutted with Water, the forcible Penetrations of it breaks the Surface, and raiſes an agreeable Mold for the Seed. The Neceſſity of which will yet more appear, if we only reflect a little on the bad Effects of dry ploughing; for there is ſcarce a Poſſibility of making ſound Work of it; and then the Froſt gets ſuch difficult Acceſs to the Pores, that

that it very little diſpoſes the Mold. It likewiſe encourages Graſs and other Weeds, for ſo long as the Drought laſts, neither Graſs Roots, nor the Principals of the other Trumpery, are anywiſe decayed; and the Mold ſtill continuing kindly to them, they thrive to Admiration. It alſo foſters that deſtructive Animal called the *Tory*, for that Inſect, whether it be generated from the corrupted Dung, or be produced by the Indiſpoſition of the Soil, or whatever be their *Origin*, Experience teacheth, that Drought infallibly preſerveth and nouriſheth them.

## RULE V.

*If the Field be naturally* dry *and* light, *or growthy, it will require Froſt, and Abundance of Rain, to diſpoſe it for the Plough; but if the Fold be wateriſh, it ought to be tilled, if poſſible, before the Acceſſion of Winter Froſts and Snow.*

The Reaſon of this different Treatment is occaſioned by the Diſcrepance of the Soils, of which we ſhall here give a ſhort Deſcription.

*Dry* and *light*, as we diſtinguiſh it from wateriſh Soil, is a Mixture of *Sand* and *light* Earth, and ſometimes a little *Clay*, upon an open Bottom. If the *light* Earth predominates in the Compoſure, as it very often does in our Bounds, then, in a ſtricter Senſe, it deſerves the Name of *light* and *dry*. If *Sand* prevails, it hath more Weight, and conſequently entertains more Growth; and all our growthy Fields are ſtrongly impregnated with *Sand*, and ſometimes *Clay*, which gives it a Red or Yellowiſh Tincture,

con-

conform to the Colour of the conſtituent Parts, of both which there are various Degrees, as they partake more or leſs of *Sand* or *Clay*, or both. The *Pan* or Bottom is open, as we ſaid: For altho' it be, for moſt Part, exceeding hard, yet it receives the Water in ſuch Time, that it hath no Leiſure to canker the Mold by its Stagnation; and this is the chief Characteriſtick whereby it is diſtinguiſhed from watery Soil, which, tho it be often a Mixture of the three *Originals*, yet it lies upon a cloſe and canker'd Bottom, by Reaſon of which the Water ſtagnates, and occaſions that Difference we are now deſcribing.

Now, as moderate Sap is very beneficial to this Soil, after the Summer Drought, both for filling up the empty Room of the canker'd Water, which was exhaled by the Heat of Sun and Wind, and alſo for conveying the Dung into the Centre of the Mold: So, how ſoon the Sap grows exceſſive, and the Froſt and Snow have looſed it, the Water ſtagnates and expels the Dung inſenſibly, and again corrupts the better Part of the Mold. However, the immediate Hazard of the *Toth* very much depends upon the Situation of the Field; for, if it ly on a Level, or be naturally ſpouting, it readily deſtroys the Dung at once; but, if that Field have a tolerable Deſcent, and the Ridges laid down a little round, it will preſerve the Dung againſt the firſt Attack of Froſt, but ſhould not, if poſſible, be allowed a ſecond Rencounter. This Soil is not deſpicable with us, and the more it partakes of *Clay*, it is ſtill preferable, and, when well *tothed*, and ſeaſonably ploughed, makes ſufficient Returns. Only it is later in reaping than dry Ground; but,

to

to make Amends for that, it produces better Grain. *Dry* Ground, as here defined, having ſuch a ſtrong Mixture of *light* Earth, and no natural Moiſture, it requires great Plenty of Froſt and Rain to make Way for the Dung to perviate the Mold, and diſpoſe it for the Plough. Hence it is evident, that, in Proportion to the *Lightneſs* of the Soil, it will require more Rain to repleniſh it with Moiſture.

## RULE VI.

*Toth-Folds ought to be ploughed ebb and tight, at the Firſt Crop, and afterwards a little deeper, to ſucceeding Ones.*

The Reaſons of ebb ploughing, at intaking, are, to retain the Dung as near the Surface as poſſible, that the Seed may not only be planted in the richeſt Part of the Mold, but that it may be more frequently ſupplied from the Vicinity of the Dung, and that a good Part of the Mold may ly undiſſolved, to nouriſh the following Crops. Tight ploughing is alſo a very neceſſary Circumſtance, at firſt Crop, for two Reaſons. The firſt, to facilitate the following Tillage: For, if Ley-Furrows be rough or ill laid, it is not poſſible to make even Work afterward, unleſs the Plough reach the Bottom of the Mold, which, by the Rule, ſhould not be done till the laſt Crop, if the Field have a ſufficient Deepneſs of Earth, and can be divided into ſo many Parts. The other is, to preſerve the Mold in Heart, for rough Furrows require ſo much of Harrows to break and ſmooth them, that it diſheartens the Field at once.

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The next Thing recommended by the Rule, is, to let the Plough a little deeper to every ſucceeding Crop, until it reach the *Pan*, which is alſo agreeable both to Reaſon and Experience; for it furniſhes freſh Mold to every Seed, and it buries the Roots of Weeds: For it is well worth the obſerving, that the Weeds go no farther than the Plough, but are terminated by the Bottom of laſt Furrow. And therefore 'tis a Piece of very bad Conduct to plough deep at firſt, ſeeing the Growth and Increaſe of Weeds ſo much depend upon it; and, which is another very bad Conſequence, that it ſo diſheartens the Field, that it will not bear the ordinary Allowance of Crops. Or, if it be torn and rent with Plough and Harrow, to force it to perform the Task which its cruel Owner has appointed, it will require much longer Time to ly in Graſs than if it had been duly managed at laſt intaking. And it is a certain Truth, altho' little thought of, that more *Miſchief* happens to the Ground from bad and untimeous ploughing, than from Want of Dung to fertilize it. And the ſame Seaſon is generally to be followed in ploughing the reſt of the Crops, as at the Firſt: For wateriſh Ground ought to be tilled betwixt wet and dry, becauſe the one Extream diſſolves the Body of the Mold, and the other turns it into Mortar, by the treading of the Cattle. If the Field be *light* and very *dry*, it ſhould get Froſt and Rain before it be ploughed; for, having very little Tenacity of its own Nature, it ſtands in Need of all the Water it can contain, to conſolidate its looſe Parts; and if it be inclined to *Tory-eat*, it ſhould be turned over as ſoon as the Plough can poſſibly enter the Mold after froſty Weather.

RULE

## RULE VII.

*If the Fold-Dykes be caſt down at all, it ſhould be done immediately before ſowing, except the Field be dry and light, and free of Growth; in which Caſes it may be done any Time in Winter.*

The Reaſon of keeping up Dykes ſo long, is to preſerve the Turf from Rain; for whatever Kind of Earth the Dyke is made of, there are great Quantities of Water extracted from it by the Summer Drought. Now, as the Turfs are harden'd, ſo there are many empty Spaces, or ſmall Pores left, after Exhalation of that Sap wherewith it was built, and by this Means it receives conſiderable Advantage, for the Mold is thereby united, the ſuperfluous Water, together with other offenſive Matter, is evacuated, and the kind Influences of Air and Dews have free Acceſs granted to occupy them. Now, daily Experience teacheth, that if the Turf be expoſed to Winter Rain, after it is thus diſpoſed by the Drought, it will ſoon give Way to the irreſiſtible Impreſſions of Water, and commence as diſtempered in its Condition, as it was when it was caſt up with the Spade. But as there is no Rule without Exception, ſo it happens here; for, if the Field be dry and light, and free of Growth, the Dykes ſhould be caſt down in Winter, ſo as it may receive both Froſt and Rain: And the Reaſon of this oppoſite Treatment, is to preſerve it from crumbling into Duſt, and fortify it from the Impreſſions of Drought. For altho' the Turf, poſſibly, receives ſome Benefit from the Summer Drought, ſo as to deſtroy the Vermine with

with which that Soil is infeſted, and the Mold hardened, if the Dyke has been built with Sap, yet the Loſs that it ſuſtains, from being caſt down immediately before ſowing, is more than ſufficient to counterpoiſe the former Profit: For being a Soil that conſiſts, for the moſt Part, of *light* Earth, it is by no Means tenacious, and, when the Harrow is applied to it, it crumbles into Duſt, neither is it able to reſiſt the very Beginning of Drought, which ſtifles the Brier about the Time of Stocking; ſo that, inſtead of Corn, nothing is to be ſeen but uſeleſs Trumpery, and very often empty *Blains*.

Altho' there ariſes conſiderable Profits from the Dykes, ſo that they compute as great Product from them, at firſt Crop, in ſome particular Soils, as from all the reſt of the Fold, unleſs it be very well toth'd; yet it deſerves to be conſidered, whether there would not be more Advantage to make large Folds, and build ſubſtantial Dykes, and allow them to ſtand altogether: For, if we reckon the keeping of the Corn within them from Beaſts, during all the Crops, the Convenience of an Incloſure, after the Corns are cut down, and when the Field is laid down in Graſs; and, if we take into this Account the Winter Haining, which very much betters the Soil, nobody will be at a Loſs what Way to determine in this Matter.

There is nothing can be objected, with Reaſon, againſt it, but the immediate Loſs of what was expected in the Growth of the Dyke; but that Difficulty is ſhortly anſwered, by adviſing to build Dykes acroſs the Fold, this will ſupply the Loſs of the outer one, and enable the Owner

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to dung his Fold both ſooner and better, ſo that there can be no Excuſe to defend that vulgar Error, of caſting down Dykes.

## RULE VIII.

*The Fold thus prepared, as ſoon as the Seaſon ſets in dry, proceed next to ſow it with proper Grain.*

If the Soil be *Clay*, put white Oats into it; if mix'd, uſe mix'd Seed; if *light* and *dry*, ſow it with ſmall Corn.

It is an old but very true Maxim, that Extreams are vicious; and, in the Caſe of ſowing, it holds literally true, for the over-doing this Work, either as to the Time, Quantity, or Quality of the Seed, will be very detrimental.

The proper Time of Sowing is betwixt wet and dry; for, when the Moiſture is too far exhauſted, the Mold pulverizes with Harrows, before the Seed be covered, which makes it too agreeable for the Weeds. If the Sap be too great, it is more dangerous, and the bad Effects thereof various; for it ſwells the Seed too much, and chills the Principles of Life in it: Neither does the Mold riſe with the Harrows, which gives a very great Advantage to the Graſs. If Froſt happens after wet ſowing, it is ſtill more noxious to the Seed; however, particular Regard is to be had to the Nature of the Soil, ſome requiring ſo much Sap to diſpoſe it for the Harrow, as would utterly ruin another.

Of the firſt Kind, are all *light* and *ſandy* Fields, eſpecially after the firſt Crop; of the laſt Kind, are *Clay* and wateriſh Fields; for, being

oppoſite in Quality, they generally require oppoſite Seaſons. There is a third Kind, that requires a middle Seaſon, neither wet nor dry, late nor early; and to this Diviſion are reduced, for the moſt Part, new broke up Fields, and growthy, by which is meant, thoſe that are infeſted with Graſs-Roots. Some are ſo unwary as to let this laſt Kind ly till it had ſpent, as they imagined, its Growth, and then apply the Harrow, thinking thereby to demoliſh it by Stratagem; but in this they are utterly deceived, for, if once the Graſs has recovered the Winter Streſs, and begun fairly to exert itſelf, it will not be in their Power to cruſh the Growth with Harrows, without running into as great Inconveniencies, even breaking the Body of the Mold, and encouraging many other Weeds as well as Graſs.

Another Error may be committed in the Quantity, or giving too much or too little Seed. If the Field be *light* and *dry*, too much will be more dangerous than too little, becauſe the Loſs of thin Corn, is, in a great Part, made up by the Number and Goodneſs of Grain in each Stalk; and then there is very little of the Seed loſt, by Reaſon of the Warmneſs and Dryneſs of the Mold: Whereas thick ſowing is attended with more and worſe Circumſtances; for, beſides the Loſs of ſuperfluous Seed, the Brier ſprings up ſo thick, that it extracts the whole Moiſture, and much of the Riches of the Field; and, unleſs it be continually ſupplied with very ſeaſonable Showers, it will ſoon be confuſed with Numbers, and chok'd with even moderate Drought; and, at all Events, it will produce but ſhort Fother, and weak Grain. Another Loſs flows from this

this Peice of ill Conduct, is, that it soon incapacitates the Field from bearing, because it deprives the Mold of its Riches all at once, and gives the Grass-Roots Opportunity to repossess themselves; and thus, we see, especially after a droughty Year, the Field all skin'd over with Grass, which cannot be eradicate with Profit, till the Field be again quite laid down. But, when Corns are thin, the lesser Weeds get Scope to exert themselves, which, tho' they grow up with the Corns, have their proper Seasons wherein they begin to decay; and by the Fall of their Bloom, and the Help of Air and Dews, assist the Mold, and give Stop to the Grass.

It is plain then, that, of these two Extreams, thin sowing is more eligible than thick, in *light* Ground; but in *Clay*, or cold Soil, the Effects of thick sowing is accompanied with little more Danger than the Loss of Seed; for, altho' the Brier come up very thick, the Mold is not thereby dissolved, and will still be supplied from the Bottom, with Sap sufficient to bring a competent Share to Perfection.

A third Mistake is frequently committed, in the Kind or Quality of the Seed, wherewith the Field is sown, which is taken particular Notice of by the last Part of the Rule, where it directs to sow *Clay* with white Oats, *mix'd* with mix'd Seed, and *light* and *dry* Molds with small Corns; and, indeed, we have no other Way left to direct us, in applying proper Seed to our respective Fields, but only to consider the Nature of the Soil, together with its present Condition as to Riches or Poverty. For altho' it be almost an Axiom in Agriculture, the richer the Field,

lesser

leſs and cleaner Seed will it require, yet a Miſtake, in adapting it to the Soil, may render the Labourer's Pains ineffectual; for, as among Animals, the oppoſing of Nature by promiſcuous Mixtures, produces Monſters, ſo the Miſapplication of Seed brings forth Dwarfs in the vegetable World.

Thus, it ſeems, while Nature is kindly endeavouring to bring all her Productions to Perfection, ſhe is deſtitute of proper Materials wherewith to effect her Deſign: So, we ſee, when the Seed is inferior to the Soil, its Offspring will appear more clean, but leſs profitable, on Account of greater Quantities of Refuſe, and more than ordinary thick Hull, becauſe the Redundancy of Nutriment, which it receives from the Mold, aſſimulates it to the Soil, but cannot poſſibly alter the innate Qualities of the Grain: And, for the contrary Reaſon, if the Seed be too clean for the Soil, it is ſtarved for Want of Supply, and, conſequently, degenerates into a dwarfiſh Kind, neither great nor ſmall.

## RULE IX.

*Let the Field get as much of harrowing, as raiſe a competent Mold to cover the Seed.*

This Rule as much recommends Caution in harrowing, as the laſt did preſcribe Mediocrity in ſowing; and, indeed, Extreams here are equally hurtful, and generally tend to promote the ſame bad Effects. For, when a Field is over harrowed, it pulverizes the Mold too much, and makes it an indulgent Parent of Weeds, and, conſequent-

conſequently, ſpends that Vigour in nurſing them, which ſhould have been applied to propagate the Corns, and alſo the ſmall Pieces of Sward, that are torn off by the mercileſs Harrow, do again take Root, and cover the Field with Graſs; ſo that the Corn is thereby reduced to occupy but a ſmall Share of that Surface, which it was deſigned to repleniſh.

Deficiency in harrowing leaves the Furrow too entire, and the Mold noways ſufficient to encourage the Seed, nor yet to check and cover up the Roots of Weeds; ſo that it will be neceſſary to raiſe an agreeable Mold upon the Furrow, but not to proceed to ſmooth it further, altho' the Surface be rough and uneven. If the Seed-time be ſo wet, that the Field cannot be ſufficiently harrowed at firſt, it may get a little more, even after the Brier is appeared. For when that Machine is dragged up and down the Surface of wet Ground, it pulverizes it too much, and, by the firſt Drought, the Field, is all overrun with Cruſt, which ſtifles the Seed, and marrs it with Weeds, unleſs it be relieved with the Harrow.

## ARTICLE V.

### Of FALLOWING or FAUCHING.

THE next uſual Way of breaking up Outfields, as it is marked in the Beginning of this Method, is what we commonly call *Fauching*, which is the plowing down of a Field, with

Deſign

Deſign to rot the Sward, and expoſe the Bottom of the Furrow to the Impreſſion of the Weather; which, by its Viciſſitudes of Heat and Cold, wet and dry, extracts the Canker, and replenifhes the Mold with more proper Juices.

## RULE I.

*The Field, that's broke up by* Fallow, *requires two Furrows.*

When a Field is ploughed down in Spring, and hath lien in that Poſture thro' the whole Courſe of Summer, the Rule directs to turn it over again, partly to relax the Stiffneſs of the Furrow, and partly to bury the Weeds, and turn up a freſh Mold to the Seed, and keep in the Growth and Increaſe of Weeds till the Winter Froſts begin, which, in their own Seaſon, are very beneficial for killing Weeds, and other noxious Diſtempers, ſuch as Vermin, Canker, *&c.*

## RULE II.

*Reddiſh Ground ſhould get the firſt Furrow in the End of* April, *or in the Mouth of* May, *the next in* September.

The Reaſon of *fauching* in Spring, is, becauſe the Mold, at that Time, is not only furniſhed with as much Sap as allowed the Plough to enter it, but likewiſe it is releaſed from the Tyranny of Graſs-Roots, by the powerful Influence of preceeding Winter Storms; and, by Conſequence, renders the ploughing much eaſier, and aſſiſts the tender Mold to preſerve its Body.

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But when reddish Ground is broke up too early, or very wet, it will be easily overcome with *Tares* and Growth, to which it is strongly inclined. And the Reason seems to be, that wet ploughing hinders the Sward from rotting, and occasions the Frost to penetrate farther into the Furrow; that again is dissolved with the first warm Showers, and becomes very soon pregnant with the native Weeds of the Soil, which can hardly be checked till the Field be again laid down in Grass: So that, when the Rule prescribes the Month of *May* for fanching, it is as much as to say, that it should not be broke up sooner, and, if it be very wet, it may be referred to *June*.

The Reason of giving the second Furrow in *September*, is, because the Growth of the Year is almost over, and the Weather generally pretty dry, which ought to be much studied, when we make Choice of a Time for ploughing our Fauch.

The Soil we are now treating of, is, a Mixture of the three *Originals*, having less of the first two than of the third. It requires *seven* Years Rest, and will bear *three* Crops after Fallow. It is sown with small Corn, unless when the *Clay* predominates in the Composition.

## RULE III.

*If the Field be* light *and* dry, *the Winter Time will be more suitable for breaking it up, and the Month of* September *for administring the second Furrow.*

This Rule differs vastly from the former, and is founded on the following Reasons. First, *Light* and

and *dry* Fields are generally thin or ebb of Mold, and ſo cloſely united to the *Pan*, that nothing leſs is ſufficient to diſpoſe it for the Plough, than Winter Froſt and Rain.

This Plenty of Water, wherewith the Field is then furniſhed, is neceſſary for preſerving its looſe Parts from Diſſolution. And if it be objected, that wet ploughing will produce Weeds, and, by Conſequence, deſtroy the Benefit of the Fallow, we anſwer, That that Sentiment is directly contrary to Experience; and the Field is ſo far from being damaged by the Increaſe of Weeds on the firſt Furrow, that it is much bettered, by all that poſſibly can grow in this Soil.

This Aſſertion, however paradoxical it may ſeem, is ſupported by Reaſon, as well as taught by Experience: For the Graſs or other Weeds, which grow upon the firſt Furrow, are ſo ſlightly rooted, and ſo ſmall are their Fibres, that they do not at all ſeparate the Mold; and it is highly probable, that they attract and retain more of the Nitre of the Air, and benign Influences of Summer Rain and Dews, as well as ſcreen the Mold from the parching Drought of Summer. Neither will wet ploughing hinder the Sward from rotting, becauſe the thirſty Mold and open Bottom ſoon exhauſt the ſuperfluous Water: So that nothing remains to impede the Fermentation, more than if the Field had been broke up in Drought.

It would be a conſiderable Advantage to *light* Soil, that it get the ſecond Furrow with competent Sap, both to aſſiſt the Tillage, and preſerve the Mold from crumbling; and therefore the Rule directs to apply the Plough, when the Length of

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the Night does naturally influence the Earth with Damps, and diſpoſe it to retain accidental Showers: However, it may get the laſt Furrow a little before, or even after *September*, as the Owner ſees moſt convenient; providing it be done with Sap. This Soil is made up of *light* Earth, and but *little Sand*, ſhould be ſown with ſmall Corn, carry only *two* Crops, and ſhould ly out *ſeven* Years.

## RULE IV.

*Sandy Fields ought to be dry fauch'd in* May *or* June, *and ploughed up for Seed in* Auguſt, *and in dry Weather.*

By *Sandy* Fields here, is meant, a Mixture of *Sand* and *light* Earth, where the former is the prevailing Principle; and the Reaſon why late fauching is here preſcribed, is, to prevent Graſs and Sorrel, to which this Soil is ſtrongly inclined, when it is broke up either early or wet. If the Summer prove rainy, theſe Weeds will get Footing, altho' the due Time of fauching be obſerved; and therefore the Rule adviſes to till it over again before Harveſt, when the Drought generally prevails; but if the Seaſon be rainy, it would be convenient to ſuſpend the laſt Furrow till the approaching of Winter Froſt.

Altho' there be no ſuch Thing to be found with us, as a Field of pure *Sand*, except at the Sea-Side, yet there are two Kinds of Soil which we call *Sandy*, as being principally made up of that *Original*. The one is a rough big, intermixed with ſmall Pebbles; the other a ſmall ſoft *Sand*. The firſt is proper for fauching, being leſs incli-

ed to Graſs, which is probably occaſioned by the Stubbornneſs of the Mold. Some of this Kind, providing it ly very dry, and, conſequently, have leſs Growth, if it be fully reſted, will yield tolerable Increaſe with only one Furrow, which it ſhould get when the Mold is very dry. But the Succeſs of the Crop much depends upon a dropping Seaſon, becauſe it will be eaſily choked with Drought.

The other Kind, which is *ſmall Sand*, is fitter for *tothing*, becauſe it retains a little more Sap, and, conſequently, admits more readily the Impreſſions of the Dung, and is not ſo eaſily overheated by the Ardour of the Sun, to exhauſt the *Toth*.

One Thing is worthy of Obſervation, that *Sandy* Fields ſhould be late *toth'd*, becauſe, being a porous Body, and naturally warm and growthy, they ſoon entertain the Communications of the Dung; whereas, if they be early *toth'd*, they ſhoot out the Whole into *Gorſk*, by which Means the Mold is more diſheartned than when the Cattle entred the Fold. This Soil is ſown with as ſmall Corn as can be procured, and carries *two* Crops.

## RULE V.

*Wateriſh Ground ought to be fauch'd betwixt wet and dry, after Oat Seed, and as tight as poſſible; the ſecond Furrow ſhould be given in* September, *and with moderate Sap.*

By wateriſh Ground here, is meant, a *mixt*, tho' generally inclining to a *light* Soil, upon a cloſe

*close Bottom.* And the Reason of prescribing a middle Season, for breaking up Fields of this Kind, is, that too much Sap hinders the Sward from rotting, and the Canker, that's inherent in that Soil, from being extracted with the Sun and Wind: For the first Drought or Frost that happens, after the Field is wet ploughed, dissolves the Surface into a small Mold, which intercepts the Sun Beams from piercing the Centre of the Furrow, and, consequently, prevents all the Benefit that ordinarily happens to Summer Fallow.

The other Extream, *to wit*, dry fauching, is to be carefully avoided, because it interrupts the Plough, so that 'tis scarce possible to make right Work, and it paves the Way for the next ploughing to pulverize the Mold. And for the same Reason it is, that moderate Sap will be necessary in administring the second Furrow.

This Soil is fitter for folding than fauching, because 'tis not only soon dissolved by frequent ploughing, but 'tis likewise so obstinate, that 'tis little mended by the Fallow, unless it have a proportionable Mixture of *Clay*; but it makes best Returns with Dung, when it is seasonably laid upon it, altho' the Manure be of itself very coarse. It is often sown with mixed Seed, except it be of the worse Kind, carries only *two* Crops, and should ly *seven* or *eight* Years.

## RULE VI.

*If a Field be cold and canker'd, or overgrown with Reesk, Tear old Fauch will agree best.*

The Fields that go under the Denomination of *cold* and *canker'd*, do generally ly on a close Bottom,

tom, having many ſmall Springs or little Veins of of Water continually burſting through the *Pan*, which, by their Stagnation, ſour the Mold; and, if the Springs be Mineral, they corrupt the whole *Strata* of Earth which they paſs through, and tincture the Mold with the Colour of that Mine with which the Waters are impregnated.

It is true, there are ſeveral Fields reduced to the Category of *cold* and *canker'd*, that have no viſible Springs in them. But then that Diſtemper is either owing to the level Situation of the Field, which, with the cloſe Bottom, retains the Rains that fall from the Clouds, till it be again exhaled with the Sun and Wind; and thus is the Field inevitably canker'd by the Water's ſo long Continuance in one individual Station: Or elſe there is an inexhauſtible Fund of Water lying too near the Surface of the Earth, which, altho' imperceptible to human Eyes, is ſtill ſending up Damps to the ſuperjacent Mold.

Whoever conſiders this ſhort Deſcription, will readily conclude, that Fields of this Kind require more Time to ly in Fallow, than thoſe of a drier and more favourable Situation, becauſe they take more Time to draw out the Canker by the Impreſſions of the Weather, as well as rot the tough Sward: And therefore the Rule very juſtly preſcribes Year old Fauch, *that is*, to let the Field ly a whole Year betwixt the firſt and ſecond Furrows.

The Month of *Auguſt* is generally reckoned the proper Time for breaking up Fields of this Sort; becauſe the Summer Drought has exerted its greateſt Force in drawing out canker'd Water; and

and the Surface; for moſt Part, is then dry, which very much contributes to rot the Sward.

The Molds of cold Grounds are very different in their conſtituent Parts; ſome are made up of *Clay* and *Sand*, ſome of *Sand* and *light* Earth, and ſome have a Mixrure of the three *Originals*; but all agree in that ill-natured Quality of cold and canker'd.

Altho' our Fields will not admit of frequent ploughing, for one Crop, without breaking the Body, yet there are ſome Pieces of cold *Clay* Soil, which might poſſibly be rendred more ſweet and mellowy in its Conſtitution, by ploughing it more frequently; but we purpoſely forbear to meddle with that Soil, leſt we ſhould ſeem to move excentrically, and therefore ſhall confine ourſelves within our own Sphere, which, as we declared at firſt, was only *Hazely Ground*.

Cold Fields require longer Reſt than would be expected from ſuch a ſturdy Mold, becauſe, when 'tis once made tender, 'tis good for nothing; and, if it be broke up before it be ſufficiently skin'd, it moulders down at firſt; and therefore it ſhould be allowed to return to its native Sward, whether it be *Ruſhes* or *Reesk* intermixed with other Graſs.

It is commonly ſown with *mixed* Corns, and ſometimes with *White* Oats; at other Times, with what we call *Barley Corn*. It will ordinarily bear *three* Crops, and ſometimes *four*, when well reſted.

ARTICLE

# ARTICLE VI.

## Of DUNGING of OUTFIELDS.

THE third uſual Way of diſpoſing of Outfields, for producing Corn, is *Dunging*, which, when duly prepared, and ſeaſonably laid on the Field, will anſwer the Deſigns of *Agriculture* as well as any of the former.

### RULE I.

*The Field, which is deſigned to be dunged, ought to be ſufficiently reſted.*

There is the ſame Reaſon for preſcribing competent Reſt to the Field that's to be dunged, as if it were to be folded or fauch'd; for the Mold hath as much, if not more Need to be ſecured againſt the Efforts of the Graſs; becauſe Dung ſeems to be more favourable to Growth, than either *Toth* or *Fallow*.

Only, if the Field be wateriſh, it may be ſooner broke up, with the Dung, than Fallow. And the Reaſon ſeems to be, that this Soil hath but little Growth, and, conſequently, turns ſooner ſolid in the Mold, which is all that is neceſſary to qualify it for Dung: But Fauch requires a fogged Sward, which takes much longer Time to reſt.

RULE

## RULE II.

*Any Soil ſufficiently reſted will be improven by Dung, when rightly choſen, but the moſt proper Soil for making the Returns of it is wateriſh.*

Any Field, that's not yet rich enough, will be improven by Dung; but great Care muſt be taken to adapt it to the Soil, otherwiſe the Owner will be diſappointed in the Returns. *Growthy* Ground ſhould get *Lime*, or elſe well mixed, and ſtrong Dung compoſed of different Ingredients. If the Field be *Sandy*, *fat Earth* may be applied with good Succeſs, becauſe it doth not much open the Mold, nor encourage the Weeds, to which that Soil is inclined, *to wit*, *Sorrel* and *Graſs*, and it is not ſo dangerous in Time of Drought, as ſtronger and lighter Dungs.

If the Field be *light* and *dry*, it ſhould be plied with the moſt ponderous and tenacious Dung that can be procured, ſuch as *Clay* and *weighty Turf*, prepared in the Sink of Office-Houſes.

But, of all other, that which we commonly call *wateriſh Ground*, doth not only make the beſt Returns, but is more eaſily improven: For any Superinduction whatever, whether it be prepared *Dung* or common Earth, or even *Peat-Droſs*, will diſpoſe it for Production. The Reaſon of which ſeems to be, that the whole Mold, being canker'd with ſtagnate Water, and humid Vapours that aſcend from the *Pan*, baffles all the Endeavours of Air and Dews to amend it, while alone; whereas any Dung, laid on the Surface, freely receives their kindly Impreſſions: And the Soil having

ing nothing of Growth in it to exhauſt the Dung; all the Subſtance of it goes to enrich the Field; and ſo far are the Damps that ariſe out of the Bottom from cankering the Dung, that they directly aſſiſt it to enrich the Field, ſooner and more plentifully, by ſupplying it with that Moiſture which is neceſſary for conveying the Dung into the Mold.

## RULE III.

*Dung ought to be prepared with proper Mixtures, before it be laid on the Field.*

The Deſign of mixing Dung, is to make it ferment and rot the better; for daily Experience teacheth, that a Collection of Bodies, endued with the ſame Qualities, maintain a perfect Harmony, and conſequently obviate the Fermentation, which is the jarring and ſtruggling of different Bodies thrown together in the ſame Heap. Now 'tis certain that *Dung*, thus prepared, is by far more effectual to deſtroy the Weeds, and fertilize the Ground; for 'tis not, generally, ſo much the Labourer's Deſign to thicken the Mold by his Super-Induction, as to rectify the depravd Diſpoſition of the Soil, and ſo to temper its Conſtitution, as to make it anſwer the Methods of Art.

## RULE IV.

*Houſe-Gooding ſhould be mixed with Turf, and, if there be nothing but Turf, then mix it with Lime; if that cannot be got, put combuſtible Turf on the Top*

*Top of the Dunghil, and reduce that to Aſhes, which will readily influence the Whole.*

As the preceeding Rule enjoins the nurſing of Dung, ſo this preſcribes the Ingredients wherewith, as well as the Method to be obſerved in doing of it.

*Houſe-Gooding*, by which is meant the Excrements of Horſes, Nolt, and other domeſtick Animals, ſhould be mixed with *Turf*, becauſe they are too *light*, or over *hot* of themſelves, for moſt Kinds of our Soils; and therefore ſtand in Need of the Solidity of Turf, to give them a proportionable Weight, and moderate their exceſſive Heat.

*Turf* without Mixture, is generally too poor a Manure for the Soil, and being of ſimilar Qualities, does not much ferment, and ſo requires longer Time to rot than is ordinarily allowed to Dunghils, and therefore ſhould get *Lime*, or ſome other *ſtrong Ingredient* intermixed with every *Stratum* of Turf; but, if that cannot be had, the burning the Top of the Dunghil will, in great Meaſure, ſupply the Defect of Mixture, for the Smoke or Fire will pervade the whole Heap, and the Aſhes will ſo operate upon it, as to make it fit for enriching the Field whereupon it is laid.

## RULE V.

*The Spring is fitteſt for making of Dunghils, and the Turf ſhould be caſt, and expoſed to the Weather, ſome Time before.*

By the Spring, we mean the Month of *May*; for, altho' the Turf be digged in the Beginning of *March*, it will require to be expoſed to the Weather for ſome Months, to extract the Water and other Canker from it, and by that Means be better diſpoſed to receive, into its empty Pores, the Influences of other Mixtures. It would not be amiſs to put the Turf into Rickles, or ſmall Heaps, or they may be built in thin Dykes to dry and wither them, for the leſs Sap that's left, it is ſtill the better. Another Reaſon, why we condeſcend upon the Month of *May* for making Compoſitions of this Kind, is, becauſe the Sun being near his greateſt Altitude, does more effectually draw out the natural Moiſture of the Turf, that it may be repleniſhed with more proper Juices; and the Warmneſs of the Air, which generally commences from that Time, very much haſtens and ſeconds the Fermentation.

## RULE VI.

*It will be proper to turn over the Dunghil in Summer, to mix and rot it the better.*

As great Care ſhould be taken in making up Dunghils, ſo no Pains is to be ſpared in bringing them to Perfection; therefore this Rule, with good Reaſon, recommends to turn them over when the jarring Parts begin to ſettle. This Advice, however ſuperfluous it may ſeem, is nevertheleſs very beneficial towards a due Preparation of Dung; for the turning and hacking of Dunghils breaks the ſtiff Turf, which is caſt in

at firſt altogether whole, and ſo incorporates the different Ingredients, that every Part of it will be equally good; and beſides, the looſing of it in that hot Seaſon occaſions a new Fermentation, which contributes very much to bring the Dung to the laſt Perfection.

## RULE VII.

*The Dung ought to be laid on the Field in the End of* Auguſt, *or Beginning of* September, *and ploughed up for Seed, in Winter, with competent Sap.*

The Reaſon of laying on the Dung, ſo long before Tillage, is, that it may have convenient Time to penetrate the Mold, and ſend up a new Sward; which, when it appears, is a ſure Indication that the Field is in ſome Degree enriched thereby. However, it requires particular Caution to chuſe the proper Time for this Work; for, if the Dung be ſpread upon the Surface of the Field in Time of Drought, it will ſoon be much exhauſted by the ſudden Exhalations of the Sun and Wind: But, if the Owner will have Patience to defer till the Drought abate, and the Face of the Field be watered with moderate Showers, he may perform his Buſineſs with much better Succeſs.

There is another Caution given by the Rule, that ought to be carefully obſerved, which is, that the Dung ought not to be laid on the Field too early, otherwiſe the whole Strength of it will be ſpent in *Gorſe*, before the Growth of the Year be gone, and the Winter Froſts approach to check

check its Progreſs. Notwithſtanding, if the Field be ill skin'd, *that is*, have many bare Interſtices betwixt the Parts of the Sward, it ought to be early dunged, that the Defects thereof may be made up by the Growth of the Gooding.

The next Thing recommended by the Rule, is, to plough up the Field for Seed, in Winter, with full Sap. This Advice is generally neceſſary in almoſt all Soils, becauſe that, if the Graſs-Roots be not waſted before Tillage, the Plough will not kill them; for, if they ly dormant a While, in the Dead of the Year, they will ſpring up afreſh, how ſoon the Extremity of Winter is over, which, in a great Meaſure, defeats the Deſign of the Husbandman. The ſame Method is generally to be obſerv'd, in ploughing of dung'd Fields, as was preſcribed in Toth-Folds, *viz.* that they ſhould be tilled ebb and tight to firſt, and ſtill deeper to ſucceeding Crops, ay till we reach the Bottom of the Mold, and for the ſame Reaſons which are already given in the Article of Toth-Folds. There is, indeed, this remarkable Difference obſerved in wateriſh cold Ground, that tho' Froſt and Rain will ſoon expel the Toth of this Soil, yet it will not eaſily fruſtrate the Effects of Dung; whether it be that the Toth is of a Quality too refined for ſuch a backward Mold, and therefore unable to maintain its Station, when the Pores are again glutted with Water; or whether the Dung, being more in Subſtance than the Toth, is capable to imbibe more of the Canker, with which this Soil abounds, and yet be able to ſupply the Seed with ſufficient Nouriſhment, we ſhall not

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peremptorily determine. When the Sward of a Field is very old, and Tufts of Reesk interſperſed, it may be ploughed immediately after it is dunged, and providing it be dry and ebb tilled, and ſufficiently harrowed, the Dung will get convenient enough Acceſs to the Seed; for the dry plowing will free the Mold of Canker, as well as rot the Sward; all which contribute to cauſe the Field return the Labourer's Pains. As to the Time and Manner of ſowing and harrowing, it is the ſame with that of Toth-Folds upon the like Soil, with this only Difference, that the coarſeſt Grounds require better Seed when dunged, than if they had been toth'd, which is probably owing to the many ſolid Parts of Dung, which is far ſuperior to the Toth, for mixing and conſolidating *light* Grounds, as well as meſſowing and enriching the coarſer Kind of *wateriſh* Soil.

By what hath been ſaid on this Subject, it is evident, to any who have but the leaſt Reflection, how neceſſary this Improvement is in the preſent; and if we add to the Account, the Benefit that Poſterity will reap from this Induſtry of their Forefathers, it will, no Doubt, breed an Emulation among all good Countrymen, who ſhall outdo one another in this kind Office to their Deſcendents. For, as the worſt Soils can be cured with right choſen Dung, ſo the Influences of it remain longer than either Toth or Fallow.

We have ſhewed already, that 'tis preferable to Toth in ſeveral Inſtances, in ſo far as it is more effectual to mend coarſe Soils for the future, and draw more Increaſe from them at the preſent; and

and as for *Fauch*, it is in all Reſpects inferior to Dung, ſeeing it adds no Benefit to the Soil for the future, but only extorts, as it were, by Violence, whatever productive Qualities Providence has beſtowed upon it: And, if we look into the common Way of managing Husbandry, eſpecially in thoſe Parts, where Nature has been leſs liberal of her Favours, we will have juſt Reaſon to reprove the Inadvertency of ſome, in beſtowing their Labour without any Proſpect of an adequate Return, and condemn the inhuman Practice of others, for wounding, ſo unmercifully, the Sides of our common Mother, Earth, without ever offering any Medicine. There is no Excuſe can be made to alleviate the Severity of this Cenſure, except it be the prevailing Humour of Landlords, in exacting what they poſſibly can of their Dependents, and they, as the Phraſe is, muſt put at the Ridges. However, it were a far more equal Way, for Maſters, to allow their Fellow-Creatures a reaſonable Subſiſtance, their Lands, in the mean Time, being improven, as well as greater Juſtice done to their own Children, to ſucceed to a thriving Tenandry, and a well managed Ground. This would be a ſure Way to raiſe a more plentiful Fortune, and tranſmit their Memory with more Honour to Poſterity, than the heaping up a Store of Money, by thoſe Means that have ſuch an Affinity to Extortion, and ſeldom enrich the third Heir.

ARTICLE

# ARTICLE VII.

## Of HAUGHS.

IN Pursuance of our Design, we come now to give Directions about *Haughs*, by which we mean the *Champain Fields*, that ly upon the Sides of Rivers and Brooks; and they generally extend to the first Brae or rising Ground from the Water-Side.

There are four Kinds of *Haughs*, all differing in the Composition of their respective Soil, and Method of treating them.

The *first* a dry mellowy Soil, made up of a due Mixture of *Clay* and *Sand*, very deep, and passes under the Name of *Daichy Haughs*.

The *second* a cold Soil, composed of *Clay* and *Sand*, intermixed with *Ore*, which goes by the Appellation of *Ironory Haughs*.

The *third* is a fat Soil, made up of *Sand* and *light Earth*, and is termed *light* and *blackish Haughs*.

The *fourth* consists chiefly of *Sand*, and is known by the Denomination of *Dry Haughs*. Of all which, in their Order.

The first and best Kind of *Haughs*, is a fine mellowy Soil, made up of *Clay* and *Sand*, very deep, and the Mixture is so exactly proportioned, that neither of them draw to Excess, and, for that Reason, makes excellent Returns, whether in Corn or Grass.

They ought to ly *five* or *six* Years in Grass, to dispose them for breaking up, and will bear *five* or

or *fix* rich Crops, in Proportion to their Reſt. When they are to be broke up, it may be done in *January* or *February*, that the Mold may be made pliable to the Plough by preceeding Storms; and the Changes that happen in the Weather, after Earing, extract any Canker that ariſes from the Bottom, and diſpoſe the Field for the Harrow. They ought to be ploughed, for other Crops, at leaſt ſome Days before ſowing, that the Drought may draw out the ſuperfluous Moiſture, and harden the Surface which riſes in Clods with the Harrows, and preſerves the Mold from crumbling or breaking with the Horſes Feet.

There are ſome Pieces of the beſt *Haughs* of this Kind, which, without Reſt or Manure, or any other Method than common labouring, are kept in Corn every Year, without Intermiſſion; but they are ſituate ſo low, that the River or Brook, on which they ly, overflows and ſtagnates upon them in Time of Speat, leaving a certain Gum to fertilize them, after the Return of the Water into its proper Chanel. However, 'tis certain, that even this Kind would make better Returns after Reſt, becauſe the Grain would be much ſtronger, and the Mold more capable to reſiſt the Violence of backward Seaſons.

The *ſecond* is a tolerable Mixture of *Clay* and *Sand*, but impregnated by ſome neighbouring Mineral, which, with its level Situation, renders it very cold, and from which it derives the Name of *Ironory*. This Diſtemper in the Mold has a great Influence on the Sward, and makes the Graſs that ariſes from it, much coarſer than that of the forementioned Soil, but hath not near ſo great Impreſſion

preſſion upon the Grain that grows upon it. For, if the Field be duly reſted and ſeaſonably ploughed, there will be little Difference in the Product. But, 'tis to be noted, that this Soil is more obnoxious to the Harm of backward Seaſons, and more difficult to manage in ploughing, harrowing and draining: It requires *five* or *ſix* Years Reſt to enable it to bear *five* or *ſix* Years Crop; and ought to be ploughed, by all Means, early, that the Winter Froſt may extract the Canker, and diſſolve the overtenacious Mold; and beſides, it has ſuch an inherent Wetneſs, that 'tis ſcarce acceſſible by the Plough, after the Weather breaks in the Go of the Year, till it be paſt Time of labouring ſuch Fields, with any due Proſpect of Return.

The *third* Soil that's found in *Haughs*, is made up of *Sand* and *light* Earth, which, altho' it generally ly near the Brink, is not much ſubject to Water-Waſh, becauſe of its low and level Situation; the Vicinity whereof to the Chanel, cannot miſs of ſupplying it with Moiſture, even in the greateſt Drought; and, having an open Bottom, is exceedingly fattened, both by the Water below, and the Dews and Fogs, that are ſo frequent in all Places where there is a Collection of Water.

This Soil is often found in ſmall Tracts along the Water-Side, or in Creeks, where the Water has formerly had its Chanel, and the Incurſion of the Flood, upon the other Side, is the ſole Cauſe of its being in this: For when the Water invades the one, and waſhes it away, it never miſſes to diſcharge, on the other Side, what it brings along; ſo that the Soils being made

up of thoſe Bodies, that fall accidentally into, or are hurried down with the Stream, its conſtituent Parts muſt be various and *light*, and this is probably the Reaſon why it is more proper for Graſs than Corn. It ought to ly *ſeven* Years, and carry *three* Crops, or at moſt *four*; for, being *growthy* as well as *light*, it is ſoon diſſolved with the Plough, and, when once it is made tender, it returns to its natural Product, which ſtifles the Corn, and renders it thin of Roots, and thick of the Hull. It ought, as well as the two preceeding Soils, to be ſown with clean white Oats, and when it is luxuriant with what we call *Barley-Corn*, till the Weeds begin to get Footing, but after that with Homel Oats.

The Time of ploughing is immediately before ſowing, which we commonly call, *Out the Plough and in the Seed*; for 'tis generally thought very beneficial to the Seed, that it be caſt in, and the Field harrowed, before Rain fall out, which waſhes away, as is believed, the Nitre of which the Mold was poſſeſſed. If the Weather be dry, ſix Hours lying, betwixt ploughing and ſowing, will be ſufficient to draw out the cold Moiſture.

The *fourth* and worſt Kind is what we call *dry Haughs*, which, altho' much inclined to Growth, yet they never yield any Plenty of Graſs, and what grows upon them is exceeding dry: But, when they are prepared for Corn, they produce pretty good Grain of the Kind, which is always mix'd, and that more or leſs, as the Soil partakes of *Clay* in its Compoſition.

There are various Degrees or Kinds of it; ſome of almoſt *pure Sand* and *Chingle*, upon a *dry Sand*, or *Chingle Bottom*: Others with a *little Mixture* of

of *Clay*, upon a colder Bottom, which is eaſily diſcovered by the Sward; for it abounds with ſmall *Paddock Pipes*.

The Difference among the reſt is principally owing to the Proportion of *Clay* that happens to be intermixed with the *Sand*.

There are three Ways of breaking up *dry Haughs*, viz. *Folding*, *Fauching*, and with only *one Furrow*, without either Toth or Dung.

The *firſt* is certainly the beſt, when it can be afforded; and the Dykes ought to be early built, before the Growth come up to the Surface, and ſhould be caſt down immediately before ſowing, to preſerve them from Rain; which, being thus uſed, will produce more plentifully than the reſt of the Fold, and maintain the Advantage even to the laſt Crop.

If the Owner cannot afford Toth, it will be worth his Pains to build a Dyke on every Ridge, and plough up the Remainder by Way of Fallow about *Lammas*, and till it over again, for Seed, in the Month of *March*.

When *dry Haughs* are to be *fauch'd*, it ought to be done either before the Growth take Place, or in the End of Summer, when the Graſs is decayed, and, if poſſible, in dry Weather, to prevent, by all Means, its returning to a new Growth.

There are ſome who have tried, with tolerable Succeſs, ſmall and ebb Break-Fur, inſtead of Fallow, which they do before Harveſt, when the Field is dry, and plough it over again about *Martinmas*.

The *third* uſual Way of breaking up *dry Haughs*, is, with only one Furrow, without Manure; and this may be done any Time in Winter, and as

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ebb as poſſible at firſt, but afterwards a little deeper, until you advance to an equal ſquare Furrow.

There is great Difficulty in drawing any tolerable Increaſe from *dry Haughs*; but the principal Means to be uſed, is ſufficient Reſt, which is generally neglected; for People think, that three or four Years lying in Graſs, when it is annually fleeced as bare as Beaſts can eat it, is ſufficient to qualify it for intaking. Altho' it is certain, that *ſeven* Years is as little as can be allowed; and, during that Time, all the Manure that can be procured, ſuch as cleaning of Ditches, which often ly near thoſe low Grounds, ſhould be laid upon the bareſt and thineſt Parts, or it may be gathered into a Dunghill, and applied to the Field before breaking up.

There are two or three Directions which agree to *Haughs of all Kinds*. *Firſt*, They ought to ly till the Sward be fogged, before they be broke up.

2*dly*. They ſhould not be ploughed ſo deep as *Hazely Ground*, but only get an equal ſquare Furrow, and ſet upon its Edge, becauſe, when the Bottom is raiſed with the Mold, it kills the Seed committed to it, and corrupts the Mold with which it is mixed.

3*dly*. *Haughs* ought to be dry harrowed; for altho' they be wet ploughed, a dry Seed-Time will prevent the Harm that might ariſe from the ploughing.

ARTICLE

# ARTICLE VIII.

## Of Laighs.

THAT which falls next under our Conſideration, in Courſe of Husbandry, is *Laigh Ground*; but becauſe all the *Low Fields* that have been taken in, either from Moſſes or Mariſhes, go under the general Name of *Laighs*, we ſhall, to avoid Confuſion, diſtinguiſh them into *Burn-Lands*, and *One Fur Ley*. The latter of which we ſhall make the Subject of our preſent Animadverſions, and refer the other to be treated on next Article.

## Of One Fur Ley.

BY *One Fur Ley*, we mean all thoſe *low Fields* that have no Moſs left in the Surface, or elſe a ſmall Share, which only ſerves to mix with the other Mold, and are broke up with only one Furrow, without any Preparation, by *Dung* or *Burning*, given antecedent to the ploughing.

*One Fur Ley* is again diſtinguiſhed into three Kinds, all differing in the Quality of the Soil, and Manner of treating them.

Firſt, *A daichy fat Clay*. Second, *A light Mold*, upon a *hard Bottom*, inclin'd to Thiſtle. Third, *A mix'd Soil*, upon a *wateriſh Clay Bottom*, naturally producing Ruſhes. Of which, in their Order.

The firſt is a proper Mixture of the three *Originals*, where the *Clay* hath the Aſcendant in the Com-

Compoſition, but ſo exactly proportion'd, that the Mold is neither looſe nor ſtiff, from which it derives the Name of *daichy* or *mellowy*, and, conſequently, is exceeding fit both for *Corn* and *Graſs*.

We generally allow *four* Years Reſt to this Soil, and take *three* or *four* Crops of Corn. Thoſe who keep their Ground in Heart, take only *three* Crops; for altho' the Soil be good, it inclines much to Graſs, when it is frequently ploughed. It may be broke up before, after, or in Harveſt, providing the Mold be poſſeſſed of only moderate Sap, but ſhould not be referred till the Winter Storms have glutted it with Water. It is always ſown with clean white Oats.

The Second Sort is called a *light Mold*, becauſe, in it, the *light Earth* predominates, and the Bottom is ſaid to be hard, becauſe it is always either *Rock*, or a very *poor Sand* and *Chingle*. Both which, meeting together, do cheriſh the Thiſtles to that Degree, that the Field requires to ly out *five* Years, before the Root of that ſtubborn Weed be decayed, and bears only *three* Crops, until the plaguy Thiſtles have repoſſeſſed themſelves of the Mold. It ſhould be ploughed about *Martinmas*, when the Mold is fully repleniſhed with Sap: For, being exceeding *light* and *looſe*; it requires Plenty of Rain to raiſe the Mold from the *Pan*, and unite its diſſolving Parts. It is ſown with broak'd Corn.

The Third Kind of *One Fur Ley* is, a *mixed Soil*, upon a *wateriſh Bottom*, and, for the moſt Part, is made up of the *three Originals*, where ſometimes one, and ſometimes another prevails in the Compoſition: But as it accedes or recedes from

from *Clay*, it is, in Proportion, more or leſs valuable, and requires a Time to ly ſuitable to the prevailing Principle in the Soil: So that we cannot condeſcend upon a certain Number of Years, but only, in general, to allow the Ruſhes to decay, before the Field be broke up: For, as long as they continue in Vigour, they draw out that Moiſture and fertilizing Influences, to nouriſh themſelves, which ought to conſolidate the Mold, and diſpoſe it for intaking.

When it is broke up, it ſhould be ploughed early, *to wit*, in *July* or *Auguſt*, that the Sun and Summer Drought may extract the ſuperfluous Moiſture and canker'd Water from the Furrow, and thereby diſpoſe it to receive the Impreſſions of Air and Dews which help to rot the tough Sward, and alſo make Way for the Froſt to penetrate farther, and perform its Part more eaſily: For 'tis thought, that the Winter Froſts affect the Furrow no farther than the Drought has previouſly influenced it in Summer.

The Field ſhould be carefully drained ſome conſiderable Time before ploughing; and the uneven Places exactly level thereafter, to preſerve the Ridge from ſtagnate Water.

It will carry *five* or *ſix* Crops after Intake, providing it be duly reſted before. It may be ſown at firſt with Homel Oats; but if the Field be rich, Barley Corn will thrive better, until the Mold begin to loſe Heart, and then it will be proper to ſow it again with Country Corn.

ARTICLE

# ARTICLE IX.

## Of BURNT LANDS.

THE laſt of our Fields which remains to be conſidered, is *Burnt Land*, by which we mean a *moſſy Soil*, that ſtands in Need of *Burning*, to force the different Kinds of it into their reſpective Productions.

To account for the *Philoſophy* of this Piece of Husbandry, is, no Doubt, a Subject above the common Reach, and therefore may be eſteemed Arrogance, in any under a Profeſſor of that Science, to determine in ſuch a hidden Matter; yet we hope they will allow us only to mention the rude Notions that occur to us, ſubmitting our ſelves to be corrected by better Judgments, and clearer Heads.

*Moſs*, then, without Mixture of other Earth, is, of its own Nature, altogether *barren*, unleſs it be *burnt*. Now, the Effect of *burning* is probably this, that it evaporates, by *Heat* and *Smoke*, the *volatile* Part, which renders it *too light*; that it exhauſts the *glutinous* Quality, which makes it *over tenacious*; and that it collects more *Salts* to aſſiſt *Vegetation*.

There are five Kinds of Fields that are broke up with *burning*. The firſt, a *daiſhy fat Soil*, to be ploughed and *burnt* before Harveſt. The ſecond, an *Ironory Soil*, to be *burnt* and ploughed in Summer, and *fir*'d again before ſowing. The third, a *ſtickly Moſs*, to be ribb'd, *burnt* and ploughed in Summer. The fourth, a *droſſy deep Moſs*, inclin'd to *Sorrel*, to be *twice burnt*. The fifth,

fifth, is *Moſs blown upon hard Ground*, to be ribb'd and *burnt* in Summer.

The *firſt* is a Mixture of *Moſs*, *Sand* and *light* Earth, lying on a *Clay Bottom*, from which the Mold receives ſuch *Richneſs* and *Fatneſs*, that it deſerves the Name of *daichy*. There are three Ways of treating *daichy Burnt Land*. The firſt is, to plough three Times about in the Middle of the Ridge, and ſet the third Furrow in Heaps on the Middle. Then plough up the reſt of the Ridge, which being done thro' the whole Field, they muſt proceed to *fire* all the Heaps, and, after being reduced to *Aſhes*, they are cover'd up carefully till *Oat Seed*, when the Heaps are ſpread over the whole Ridge, and the Field ſown with *Bear*, or *Barley Corn*, as the Owner ſhall think proper.

The ſecond Method taken with Fields of this Kind, is to rib them ſmall, ſet them in Heaps, and then *fire* them, and, being *burnt*, the *Aſhes* are immediately ſpread out, and allowed to ly till the Field grow green with them, at which Time it ought to be ploughed up for Seed. There is one Thing to be obſerved in *burning*, and that is, to do it as near Harveſt as poſſible; for, when 'tis done early, the Strength of the *Aſhes* is exhauſted in *Gorſk*.

The third Way is, to plough the Field clean up in *Auguſt* or *September*, and refer the *Burning* till the Drought of *March* or *April*, and then 'tis done by *Kindlings*, or *combuſtible Turf*, caſt and prepar'd the Summer before. Theſe are ſet in ſmall Heaps, at three or four Paces Diſtance, on each Ridge, and, after they are fully kindled, we cover them up with Earth off the Middle of the

Ridge, and repeat it as often as the Fire appears, ay until we have Competency of Aſhes to ſpread over the Ridge, which is immediately done, and the Bottom of the Heaps lightly delved, and the Field ſown in the *hot Aſhes*. This is, no Doubt, the beſt Way, when *Kindlings* can be got, becauſe the *warm Aſhes* are more nouriſhing to the Seed, than cold, and the Graſs is greatly ſuppreſſed, by pairing the Surface to cover the Heaps. It will carry a Crop of *Bear* and *two* of *Oats*, and ſhould ly out *three* Years.

The *ſecond* Kind of *Burnt Land* is much of a Piece with the former, as to its conſtituent Parts; ſo that the Difference ſeems to ly in the *Bottom*, which happens to be repleniſhed with the *Ore* of ſome neighbouring *Mineral*, that impregnates the whole Maſs, and diſcovers itſelf in a prodigious Defect and Sterility of Graſs.

It abounds ſo much with *Canker*, that it puts the Owner to a double Charge before he can have a competent Return; for it muſt be *burnt* before ſowing, as well as when 'tis broke up, which is done by ribbing it ſmall, and *burning* it in Heaps, which is ſpread over the Field, and allow'd to ly till the Field begin to grow, and then 'tis plough'd up for Seed.

It ought to be burnt with *Kindlings* before ſowing, as well as the former, and will carry a Crop of *Bear*, and *two* of *Oats*; but if it be not plied with *Fire* a *ſecond Time*, it will bear only *two* Crops of *Corn*, and ly *five* Years.

The *third* is called a *ſtickly Moſs*, becauſe it is all mix'd with *Crops of Trees*, which, in old Time, had grown in that Ground, or have been accidentally carried into it. It requires two Furrows,

rows, as well as the reſt; for 'tis firſt ribb'd, and, ſome Days after, when it is dry, we put *Fire* into it, which, with a favourable Gale, will, in a Day's Time, over-run a whole Field, with little or no Help. And how ſoon the Fire is extinguiſhed, it is ploughed over again pretty ebb, and thus it lies till the Seed Time.

It is ſown with *broak'd Corn*, and carries only *one* Crop, until it ly *two* Years again in Graſs.

Some People *burn* it again before ſowing, and keep it in *Corn* every *other* Year. And the Reaſon they give, for *ſqueezing* the Field at this Rate, is, that it grows very little Graſs when it lies out.

The *fourth* is *deep Moſs*, with *Droſs* on the *Top*, which naturally grows *Sorrel*; and, after *three* Years lying, the *general Practice* is, to rib it in Summer, and run it over with *Fire*, then give it a Break in the Rib, or that Part which the Plough did not touch at the laſt Time. Sometimes this is again *burnt* and ploughed, but it is much better, if Drought happens in *Oat Seed*, to *burn* it then, and ſow and harrow it directly. It grows only *ſmall Corn*, and bears but *one* Crop after *burning*.

The *laſt* Kind of Field that is broke up with *burning*, is *hard Ground*, lying at *Moſs Sides*, upon which the *froſted Moſs* is blown with Wind in the Spring.

When the Field is well ſwarded with the *Moſs*, which it will be in *five* Years Time, it is ribb'd ſmall and ebb. If the Seaſon be droughty, and plenty of *Moſs*, it will run *Fire*. If otherwiſe, it muſt be ſet in Heaps, and burnt in that Shape, and the *Aſhes* ſpread over the Field. Which

ſhould

should be allow'd to grow with them, and then till'd over as ebb as possible, with competent Sap, and before Frost happens. It is sown with *small Corn*, and carries *two* Crops.

## ARTICLE X.

## Of the Posture of RIDGES.

AFTER having considered our Soil, and laid down proper Rules for managing it, that our Method may be more compleat, we come, in the last Place, to give Directions about the Posture in which the *Ridges* ought to be laid in our different Fields. It is true, this might have been done, in some Measure, while we were treating of the other Parts of Agriculture; but, when we considered how detrimental the Ignorance of this very essential Art hath been, we thought it very well deserved a particular Place, that it might give the Mind a stronger Impression of its Usefulness, and guard against deforming of *Ridges*, which has been the Source of the general Decay of our Outfields.

### RULE I.

*Dry Fields ought to be kept as level as possible, without Exception of Infield, Outfield, or Haughs.*

There are several Reasons to recommend the Necessity of this Rule; for it preserves the Mold from sinking, either by frequent ploughing, or the penetrating Influences of Summer Drought;

for

for, being equally deep of Earth, and the Surface of the Field even, it retains the Moisture much longer, and is better disposed to receive refreshing Showers and Dews, as well as retain its own Moisture, which not only furnishes Nourishment to the Product, but even feeds and thickens the Mold.

A level Posture assists the ploughing likewise, because the Sap, which ought to preceed the Tillage of such Grounds, is sooner found there, and the Furrow falls much easier from the Plough; whereas, if the *Ridges* be laid out high, there is greater Difficulty in laying the Furrows, and the Drought has so hardened the Mold, that it is inaccessible by the Rain, till the Frost opens the Pores before Hand; and it is almost incredible, how dry the Middle of the *Ridge* will be found, even after the Frost has exerted its utmost Force, which often obliges the Owner, either to plough up his Fields dry, or to wait the Sap until it be out of Time to labour them, which is an inevitable Loss, as has been abundantly domonstrated. The exact Observation of this Rule will also forward the harrowing, because the Furs being better laid, fewer Strokes will be necessary, and cross harrowing will be easily perform'd, by Reason of the level Situation of the Field, which raises the Mold sooner, and preserves the *Clod* more entire, than when the Harrow is dragged up and down the same Way.

Now, to follow this Rule, we must gather and cleave alternately, or, which is the same Thing, to begin always at the laigheſt Part of the *Ridge*, and gather to it to make up that Defect; this differs widely from the Practice of many, which

is,

is, to gather twice or thrice, without any Regard to the former Posture of the *Ridge*.

Now, 'tis certain, this is an effectual Mean to ruin Ground, and the immediate Product thereof; for the frequent gathering brings the far greatest Part of the Mold into the Middle of the *Ridge*, which in rainy Seasons sends forth more than it is able to bring to Perfection; and, in Time of Drought, 'tis choked for Want of Moisture; and, at the same Time, a considerable Part of the Braes, being depriv'd of the Mold, bring forth nothing worth the Pains; so that, betwixt the two, the Crop is much impaired. Neither is this all, for the Unevenness of the Superfice exposes it to the unmerciful Drought, which thins the Mold, and claps it to the Pan. This erroneous Conduct does likewise retard the ploughing, for the thin Braes, that will scarce hide the Sock, cannot be turned over but in small Parings; and the *Mid-Ridge*, being hard and thick, requires great Force to raise it; and this, without Doubt, makes the Tillage more tedious.

As to the Nature of the Field we are treating of, the Rule, in general, calls them *dry*; but, least we should be thought to confine the foregoing Directions to light or *sandy* Mold, upon a very open Bottom, which will not retain Water for any Tract of Time, we freely extend the Rule to all Fields which have a tolerable Descent, and are not naturally cold and sprouting, or upon a loose slimy Clay.

When Fields are kept level, it disposes them to cross-ploughing, which may be profitable, especially to a Field which has a sudden Descent, and

and an ebb hirſty Mold; for it cuts the Pan acroſs, and conſequently retains the Moiſture better, than when the Bottom is furrowed always after one. It likewiſe raiſes every Inch of reſted Ground, and expoſes it, by Turns, to nouriſh the Grain that is committed to it.

A level Field ſaves the Labour of filling Furrows, which ſhould always be kept open; for, if it have a Mixture of Clay, or ly upon an hard Bottom, the open Furrow will be convenient for diſcharging the Winter Rain: And, altho' there was no Uſe for it that Way, it will be hurtful to fill the Midſt of a level Ridge, becauſe the Machine, that's made Uſe of for that Work, breaks the Body of the Mold too much, ſo that a whole Pace in the Middle of the *Ridge* grows little other but Weeds; neither does it make the Surface even: Whereas, if the Field be cloſe harrowed, the whole *Ridge* will be equally good, and as much Earth brought into the Furrow, as will ſerve to cheriſh the Corn there, which is as profitable as the reſt, and there will be only a convenient Hollow left for the next pheering.

## RULE II.

*If the Field be wateriſh, the Ridges ought to be kept round.*

This Rule is founded upon a very ſtrong Reaſon, which is, to preſerve the Field from drowning, and thereby keep the Mold in Heart for the following Crop. This Conſideration hath put moſt People ſo much upon the Practice of this Rule, that ſome Caution ſeems rather neceſſary

ſary to reſtrain them from exceeding its proper Limits. It were therefore very adviſeable, to conſider both the *Nature* and *Situation* of the Field; for if it be free of *Springs*, and the *Influence of Minerals*, and withal have a ſufficient *Deſcent*, a very moderate *Riſing* will convey the ſuperfluous Water from the Ridge; and Exceſs, in this Caſe, impoveriſhes the Braes, cuts off too much of the Growth, and ruins the Sward. Indeed, where *Springs* prevail, or *looſe ſpouting Clay*, high-form'd Ridg .re only juſtifiable.

## RULE III.

*In Infield Ground, the Ridges ought to be cloven to Break-Fur, gathered to Bear, and yoked to Bear-Root and Awal, the Furrows kept open.*

To underſtand this Rule, at one View, we muſt remember, that when a Field is deſigned for Bear, it requires two Furrows, the one a *Break*, the other a *Clean* Furrow. Now, the cleaving of wet Ground doth often hazard the Crop, becauſe the Water more readily ſtagnates, and thereby cankers the Mold, eſpecially Infields, that by a continued Tract of ploughing are diſſolved; and therefore we take this ſeaſonable Opportunity to fill up the Braes with the Break-Fur, and lower the Mid-Ridge, which otherwiſe would be raiſed at a diſproportionable Height, for Want of cleaving, than which no Time can be more proper to evade its Harm, becauſe we deſign no Crop after this Furrow; and, in ſuch Soil, 'tis given when the Drought is at Hand, to divert the bad Effects of the angry Waters.

Break

Break-Fur is, by a preceeding Rule, directed to be ebb and ſmall, but the experienced Ploughman will make a little Addition, and that is to break down the Banks, and fill up the Brae-Furrows with their firſt going about, unleſs Springs, or a Currency of Water, oblige him to keep a Vacancy to convey it from the *Ridge*.

The next Thing adviſed by the Rule, is, to gather to Bear-Crop, purpoſely to recover the Roundneſs of the Ridge, and that it may be preſerved in an equal Poſture, at the ſame Time that it is ſecured from ſtagnate Water.

We are directed to yoke Awal and Bear-Root, *that is*, to plough the *Ridges* by Pairs. This Term of Art is twofold, *viz. Inyoking* and *Outyoking*, which are ordinarily applied by Turns. The firſt is done, when we begin at the two adjacent Braes, and plough cloſe over to the next Furrows, as if we were gathering a *Ridge*: The laſt is perform'd, when we begin at the outer Braes, and plough in over till both meet in one Furrow, as if we were cleaving a *Ridge*: And the greateſt Difficulty of this Work, is, to keep the cloven Brae-Furrows open, and free of *Banking*. The beſt Way of doing this Work, is to pheer the Braes once about at a convenient Diſtance, and then ſet the Plough betwixt the two Furrows, cauſing the Beaſts to go in them, and let the Plough go juſt as deep as clean the Holl-Furrow, and fill up the Gaps on each Side; and let the firſt Furrow be as ebb as poſſible, and afterwards a little deeper, as it approaches the *Mid-Ridge*: If this Direction be followed, the cloven Brae will be abſolutely free from Banking; we muſt take Care not to yoke twice one Way, otherwiſe it will

impoverish the one Half, and thicken the other too much.

## RULE IV.

*If the Soil be deep, and inclining to loose Clay, it will be proper to gather in Bear and Bear-Root, and cleave to Awal and Break-Fur.*

This *Rule* is an *Exception* from the former, which is occasioned by the *Deepness* and *Loosness* of the Soil; for it can scarcely be *yoked*, without *banking* the *cloven Braes*; because they keep almost always such *Excess of Sap*, that, with the *Toughness* of the Mold, the Plough is drawn very unequally, *that is*, sometimes *deep* and sometimes *ebb*. This naturally occasions *Unevenness*; and besides, tho' there were no Defects in the Fashion of the Ridge, yet the *cloven Brae* will by no Means *defend* against the Winter Storms: For such Fields must be ploughed, if possible, before the Approach of Winter Rains.

This *twice gathering*, *successively*, does, 'tis true, raise the Mid-Ridge too high, and *endangers* the *lying* and *rotting* of Corns: But, to *prevent* that, it may be *eaten up* in *dry Weather*, or *May*.

The Rule advises to cleave to the *Awal* or *second Crop after Bear*, both to prepare the Ridge for *gathering* again to *Bear*, and to turn up the *rested Earth* in the Middle. This *Operation* ought to be performed with the *utmost Nicety*, beginning very *ebb* at the Braes, and allowing the Plough to dive *gradually* into the Mold, as it advances to the Mid-Ridge, *still* minding to draw the two last Furrows one and the same Way. This will make

make the Mids narrow, and raiſe up the *reſted* Mold better, than when the *riping* Fur is laid contrary to the preceeding one.

The Brae-Furrows ſhould be kept *exactly open*, and the mid ones as carefully *fill'd up*, to preſerve the Shape of the Ridge.

## RULE V.

*In Outfields, the Ridges ought to be gathered up the firſt and ſecond Crops, and cloven out to the third and fourth; the Brae-Furrows kept open, and the mid ones exactly fill'd.*

The Reaſon of twice gathering here, is, to preſerve the Ridge from drowning, and to thicken the Mid-Ridge, ſo as to admit of filling when it is cloven, which is abſolutely neceſſary in this Soil.

When the Ridge is at firſt broke up, there ought to be a ſmall Interſtice left betwixt the two firſt Furrows, to facilitate the next pheering, and to prevent a too ſudden Riſe in the *Awal Mids*.

Twice cleaving is adviſed, to level the Height of the Ridge, and fill up the Braes, to bring on a good equal Sward when the Field is laid out.

The *laſt* Direction in the *Rule* is, to keep the Brae-Furrows *open*, and fill up the mid ones *exactly*; and indeed a Deficiency in filling, eſpecially in *cold Ground*, not only *loſes* the Mid-Ridge, but *drowns* and *cankers* the whole.

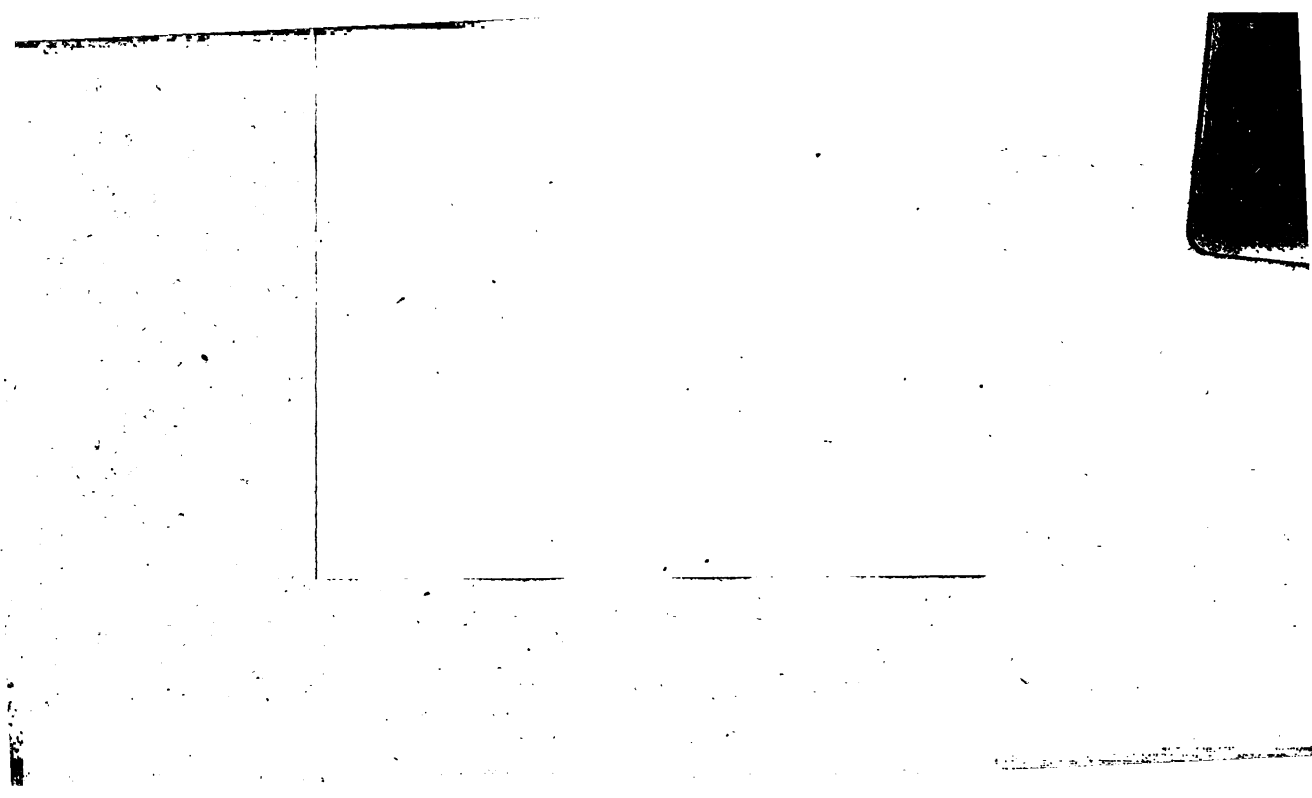
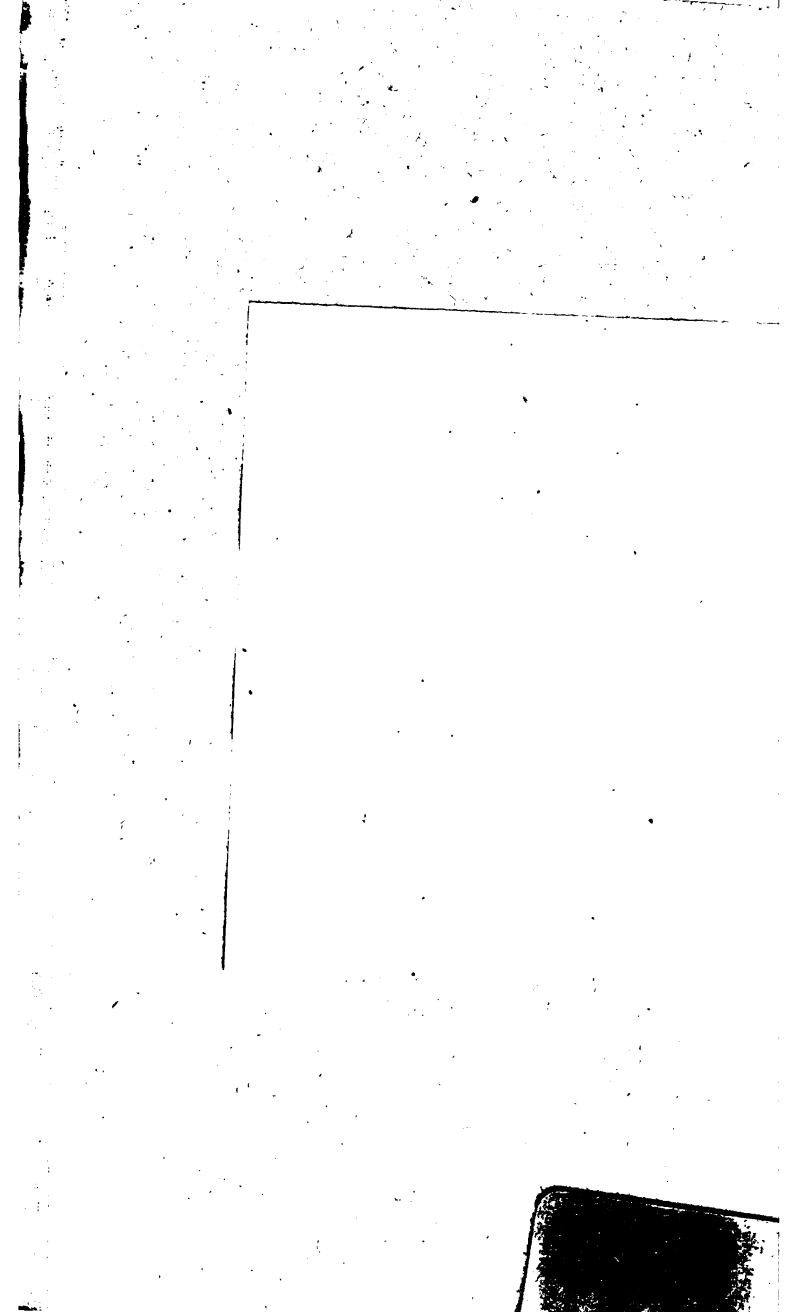
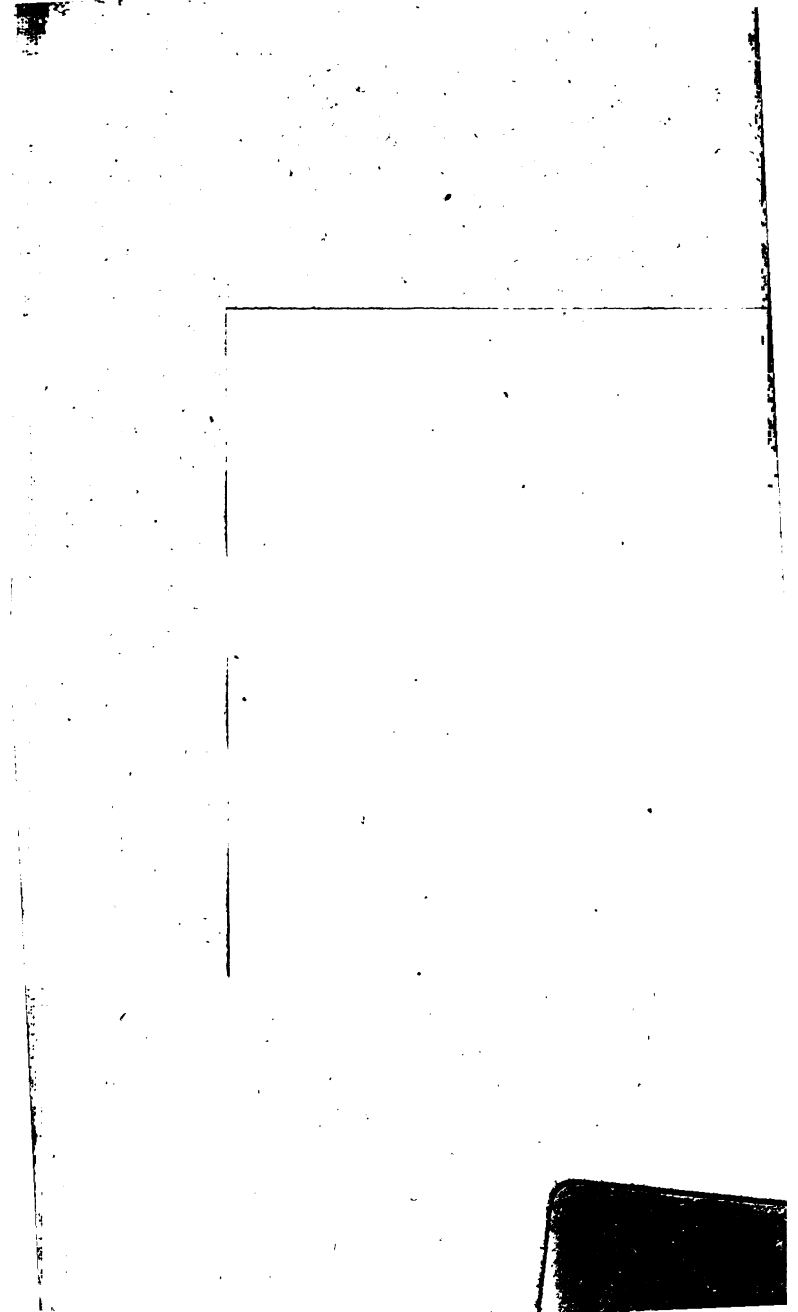
There is, however, a *Caveat* to be given about the Brae-Furrs, *viz.* to keep them *exactly open* at the *third* Ploughing, but to lay them *near cloſe* at

at the *fourth*; becauſe it keeps them free from *banking*, and is a conſiderable Help at the next Intaking: So that it will be even better to loſe a little at the *laſt* Crop, than to *oppreſs* both Man and Beaſt, when they are again broke up, and to loſe more when the Field is much richer.

## RULE VI.

*If the Field be deſign'd for Graſs, the Ridges ought to be laid down level.*

There needs little more be ſaid to *recommend* this *Rule*, than barely to name it; becauſe it makes the Returns of Graſs more plentiful, the Intake more eaſy, and the very Proſpect more agreeable. Whether the Field be *dry* or *wet*, a level Poſture will be indiſpenſibly neceſſary, to diſpoſe it ſooner for breaking up, becauſe the *Roots* of *Weeds*, which had formerly infeſted and ſeparated the Mold, are ſooner waſted when it is furniſhed with *Sap*, than when they are inviron'd with *dry Earth*. Now, it is certain, that nothing contributes more to preſerve the *Moiſture*, whether *natural* or *accidental*, than a *level Poſture*.

When the Field is *ſpouting*, or abounds with *ſmall Veins* of *Water*, the greateſt *Dexterity* is to be applied, to keep a *little* but *ebb* Conveyance 'twixt the Ridges, and, at the ſame Time, to *obviate* a *ſudden Declivity* on the Braes:

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